

The foundation of organisational learning: Understanding the interplay between formal and informal learning at work

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Abstract

The discussion of formal and informal learning has lead to the question of what type of learning should be prioritised for employees in organisations today. The objective of this study is to examine the different ways and situations in which learning takes place. The focus has been on investigating two specific courses offered in a particular company and how these contribute to learning in the workplace. Interviews conducted on course participants have been used to examine the role of formal versus informal learning in daily work operations in a knowledge intensive organisation.

Theme of Thesis and the Research Question:

It is well known that in today's society, knowledge-based organisations have to be up to date on the newest techniques in learning and competence development. This can create difficulties in some organisations by finding the right way to adjust the learning and competence development. If the organisation is to be able to grow and develop it is important that the employees in the organisation have the possibility to learn. The discussion of formal and informal learning has lead to the question of what type of learning should be prioritised in organisations today. By using Filstad and Senge's theory on organisational learning, and in addition, previous research on the area combining formal and informal learning in the organisation, the proposed research question is the following: *how does the interplay between formal and informal learning take place in the organisation?*

To be able to investigate this main question I have used the following subordinate research questions:

1. *How do people learn in daily work operations?*
2. *How do they learn through courses?*
3. *How do they use learning from courses in the daily work operations?*

Methodology and Data:

This thesis has used qualitative methodology in order to collect the data. Within qualitative data, interviews as a method were chosen. The interview guide chosen was semi structural. In addition, I have observed a course in order to get a better understanding of how to make the interview guide, and to see how the employees work at the courses. The survey is a comparative study in which representatives from two different courses have participated. In

addition, the results have been compared to results from previous research and theory. The study is conducted from two different courses. The first course that has been used represented a more practical course. The second course that was used was more theoretical. In total there were twelve informants. Eight of the informants represent the practical course, while the remaining four represent the more theoretical course.

Results:

The first research question shows that the employees experience learning on an everyday basis in the workplace, it just varies on how much. None of the informants mentioned that they did not experience learning during their daily work situation. However, some differences were experienced in terms of how they gain access to this knowledge. Several informants would like the possibility to attend different courses outside the field of their daily work. They explained that it was not that common to attend such courses outside their direct field of work. This resulted in the employees having to ask others for help and advice regarding projects they are working on. In addition, the employees said they learn more when attending meetings and discussing areas on projects that may be useful for a wider group of employees. It was also said that during meetings, they are encouraged to hold presentations for the group as a useful way of acquiring new knowledge.

The second research question has looked at how the employees learn through courses. All of the employees in this survey have participated in a variety of courses offered by Det Norske Veritas (DNV). On the question regarding why they attended courses, the informants answered that they either had to because it was mandatory, or that they were encouraged to attend. In the section on how they learn at the courses, the employees mentioned that it is easier to learn when they are working on practical workshop material during the course. This gives them the chance to understand how to incorporate what they learned into their daily work tasks. It was also mentioned that it was easier to work in groups and having discussions while attending the courses. The employees also said that when they attend courses, creating networks is important for future use.

The third question addresses how the employees use learning from courses in daily work operations. All of the employees felt that what was learned at the courses could be applied to their daily work operations. The accumulation of knowledge is a vital part of working in a knowledge-based organisation. There was also evidence that employees having a network

gained a learning benefit from this in their daily work operations. Such networks can be seen in connection to the first question presented earlier. It was also acknowledged that workplace learning is not a one-way process, they need the formal learning from courses to be able to complete their daily work operations, and furthermore to share the knowledge with colleagues. Although it was found that most of the knowledge developed in the organisation takes place through informal learning, it was found that without formal learning through courses, it is not possible to achieve the full potential of learning in the organisation. For the organisation to be able to grow, the employees have to have a form of formal learning, and it is the combination of formal and informal learning that is important.

Contributions of the Thesis:

By using different theories to study and describe organisational learning, the learning organisation and competence development, it's possible to see that the theories complement each other.

Formal learning plays an important part of competence development in a knowledge-based organisation. Formal courses serve as a foundation for knowledge that can be further developed in informal settings. However, it is finding the balance between these formal courses and the informal learning that occurs in the work place that is the main challenge. For the employees to be able to solve problems, they also need to attend courses. Formal courses represent the essential foundation for learning. It is also the combination of formal and various forms of informal learning that is important, and the interplay between these play a significant role. Since new knowledge is being produced at such a rapid rate, informal learning alone does not ensure that new knowledge is acquired and competence is being kept up to date. Moreover, the interplay between formal and informal learning takes several forms and recognising this and allowing the development of different learning places, helps develop a learning organisation. Networking, working in teams and discussions through meetings are three of the main sources for informal learning in the organisation. A learning model was created showing how the interplay between formal and informal learning takes place in the organisation. The model shows that through attending courses (formal learning), and learning from working in teams, attending meetings, and being part of communities of practice (informal learning), the interplay occurs. By combining formal and informal learning and taking into account how the interplay between these takes place, there is a greater possibility to develop and exploit the various learning methods, and through this to create a learning organisation.

Foreword

This thesis marks the end of my education at The University of Oslo.

Writing this thesis has been a rich learning experience, exciting, but also a demanding process. By writing this thesis I have been able to test my limits and not to forget my motivation. Twelve intensive months of writing are now over.

This thesis did not write itself, so I would therefore like to first of all thank my advisor, Siw Fosstenløy, for her tremendous advice and detailed feedback on my work. You have shown interest in my work, which in turn inspired me to keep writing this thesis. I would also like to thank Det Norske Veritas for opening their doors to me. I would also like to give a special thanks to my “gate-keeper” at DNV for helping me with access to the informants. Also I would like to thank Kim Rolfsen for his ideas and thoughts on how to pursue this thesis. I would also like to thank all the informants who dedicated their time to this thesis. Your input and answers were greatly appreciated, and for sharing this experience with me.

Writing a masters thesis can be quite frustrating at times. Therefore, I would like to thank my friends at University for all the support throughout this process. I realise that my personal competence depends largely on the people who I know and with whom I work – my “community of practice”. I would also like to thank my colleagues at work, who with their understanding have given me time to complete this thesis.

My parents deserve a lot of grateful words too. Thank you for all your tremendous support, guidance, your encouraging words, academic support and proofreading throughout this year. It has meant a great deal to me. And at last, but not least, I would like to give a special thank you to my great, wonderful and supportive friends Andrea and Lisbeth, for without their support, this thesis would not have been completed. You have encouraged and cheered me on through this tough process, and now I am finally finished!

Thank you!

University of Oslo June 2013.

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1 Introduction

1.1 Presentation

There is an extensive amount of literature on the topic regarding organisational learning. This literature comes from various fields including sociology, psychology, business and pedagogy. There are now newer concepts entering the area of workplace learning such as Senge (1994) with the five disciplines of a learning organisation, Lave and Wenger (1991) with situated learning and legitimate peripheral participation, and Filstad (2010) with organisational learning. Hodgkinson (2004) points out that there is an agreement in the literature that learning at work cannot be separated from the everyday working practices of the workplace. In every organisation the term “learning” is present, the only difference is how this form of learning is organised and structured within the organisation. To be able to successfully create learning in the organisation, it is important to focus on both the formal and the informal learning that occur in the daily work situation (Filstad 2010; Slotte, Tynjälä and Hytönen 2004). In reality, this combination is not focused on as often as we would wish. To create an organisation that has its focus on learning and that is constantly engaged with knowledge development is a process that takes time. In such a process, there are different types of factors and considerations that have to be taken into account.

“The best corporations in the knowledge economy operate as learning organizations where innovators and marketers work in teams, enjoy ease of communication with one another, have regular access to outside knowledge, and are able to generate and apply new ideas together” (Hargreaves 2003:17).

This can be understood with organisations being able to build in the capacity to share, create and being able to apply new knowledge continuously over time. It is this form for informal learning that is unplanned which leads to continuous innovation. It is with this the organisational challenge is to create groups and a culture in which the spontaneous learning can take place and thrive (Hargreaves 2003).

For an organisation to be able to grow and develop, Bell (in Hargreaves 2003) says that organisations should make some basic changes in the organisational function, so that it is

possible to enhance the continuous innovation by creating systems, teams and cultures that contribute to the maximisation of the opportunities for mutual and spontaneous learning. For this to be able to work it is important that employees in their daily work operations have open communication and motivation. An example for this can be for the organisation to establish courses for the employees, which in turn will complement the organisation in a step closer to reaching the goal of becoming a learning organisation (Nordhaug 2002:17)

1.2 Aim of thesis

The literature relating to competence development and organisational learning gives a background for the structure of how organisations in a best possible way can utilise learning.

This thesis is concerned about organisational learning in relation to knowledge-based learning, and the connection between formal and informal learning that occurs in the organisation. The aim of this thesis is therefore to shed light on how formal learning and informal learning can be connected in the organisation. This can hopefully help to fill a gap in the literature. There is little consensus on there being a connection between formal and informal learning, even though there is a variety of literature on what organisational learning and competence development is about. Learning arises and can be delivered through a workshop or a course, but it might also arise through on-the-job training, personal reading and study, interaction with peers, or through internet-based activities (Malloch, Cairns, Evans and O'Connor 2010).

1.3 Research question

The main principal research question proposed in this thesis “*How does the interplay between formal and informal learning take place in the organisation?*” is an analytical research question and is based on a need to complement the literature on organisational learning and competence development. This is based on literature from the disciplines on formal and informal learning connected to organisational learning

When conducting the analysis and the interviews based on the above principal research question, I have developed three subordinate questions. The subordinate questions have been used in order to supplement and to provide a more thorough answer to the principal research question:

- 1. How do people learn in daily work operations?*
- 2. How do they learn through courses?*
- 3. How do they use learning from courses in daily work operations?*

1.4 Det Norske Veritas

The case company chosen is Det Norske Veritas (DNV). DNV is an international organisation, founded in 1864, and has established itself with a network of 300 offices in over 100 countries. DNV was established by Norwegian insurance companies as a national alternative to foreign classification societies.¹ The organisation consists of approximately 10 000 employees from over 85 nations. The main office of Det Norske Veritas is located at Høvik, west of Oslo. DNV is an independent foundation, and their main purpose is safeguarding life, property and the environment. Their business was initially classification of ships, which means setting the construction and safety standards for ships, and ensuring that they are built and operated in compliance with these standards. Later, their business areas have been expanded to also include energy, oil and gas, and management system certification. The organisation provides their services to both the private and public sector on a national and international level. DNV employs mostly engineers and scientists with different fields of speciality, as well as social scientists, psychologists and a range of experts in a broad variety of speciality fields.

The company's core expertise is to identify, assess and advise on how to manage risk in a broad context. Since DNV is a knowledge-based company, they rely on having agile workers who have the ability to access the knowledge needed to perform their jobs. For the

¹<http://www.dnv.com/moreondnv/profile/history/>. For more information on the history of DNV.

employees, this means being able to capture, store and retrieve and utilise both explicit and tacit knowledge about how tasks should be executed.

Approaches such as courses are one of the means of learning for the employees in the organisation. Examples such as classroom courses, both internal and external in the organisation, and e-learning have been widely used in connection to learning.

Det Norske Veritas has adopted the 70-20-10 Model as a learning tool in their organisation. The 70-20-10 Model has shown that workers learn more in the workspace rather than in the classroom. Jay Cross, who is an expert on informal learning, originally designed the model. His findings were that approximately 80% of learning within the organisation is informal and the remaining 20% is formal learning. He concluded that workers in the organisation learn more of what they need to know in their jobs in the workspace, rather than in classroom settings.

1.4.1 Course A: “Train the Trainer”

Course A is a practical course that allows presenting for the individual on how to redesign and practice delivering any workshop, seminar, course or training package using techniques, tools and a set of principles to support learning. The course gives the employees the skills to deliver the training effectively, and with confidence. The course in question has the following learning outcomes; knowing the difference between learning and training, know how to meet the different learning styles of their participants. The employees will also be able to design and deliver enjoyable training experiences for the participants. Upon completion of the course the employees have to be able to design and deliver training that helps their participants learn faster, retain more and transfer new knowledge and skills to the workplace. The course is well established and has been offered for many years, however, it has not been redeveloped or updated for the past five years. The response received during the interviews indicated that there was room for improvement and optimisation of the course.

1.4.2 Course B: “SOLAS”

Course B, “Professional Course SOLAS”, is more theoretical in nature than Course A. This is a two day classroom course that will enable participants to obtain good knowledge of the general concept of SOLAS, fire safety and lifesaving appliances. SOLAS are specific technical regulations for ships, provided by the International Maritime Organisation (IMO). The main objective of the SOLAS course is to provide enhanced surveyor knowledge of SOLAS matters, with a particular focus on fire safety and lifesaving. The learning outcomes of the course are that the participants will be expected to gain general knowledge of the SOLAS build-up and the IMO organisation. They should also have knowledge of where they will find general information related to applicable regulations, and also general knowledge of technical issues on fire safety and lifesaving appliances. The employees interviewed recognised that the course was very theoretical and did not live up to the course description, and that there was room for improvements and optimisation of the course.

1.5 Structure of thesis

This thesis is concerned with organisational learning from a socio cultural perspective. The socio cultural positioning was chosen because I’m studying individuals and their social context since learning is assumed to be part of a social practice. Moreover, learning in the organisation is structured by social and cultural factors, which correspond with a socio cultural perspective.

Chapter two, concerning the theoretical framework, is divided into sections. In the first section, literature regarding organisational learning will be presented. This includes background, various views on organisational learning, different views on formal and informal learning, different ways of conducting formal and informal learning, and the limitations of formal and informal learning. At the end of the section, complementary literature, which provides a better understanding of organisational learning and a socio cultural perspective of learning, will be presented. In the second section, the thesis will present literature on competence development, work culture and motivation. This subchapter will hopefully provide a better understanding and clarification of learning, and thus make it possible to understand competence development in the organisation.

Chapter three contains the choice of methodology for this thesis, and includes choice of method, case selection, interview, observation, execution of the interviews, and analytical tools. In addition to this, the chapter includes some reflections related to what is known as validity and reliability. Some information on ethical reflections related to this thesis will also be included.

Chapter four will present an analysis of the interviews and data collected from the site. Each of the chapters will present various findings and characterisations of the case. The chapters are also divided on the basis of the three supplementary research questions.

Chapter five will describe illustrative findings derived from the data analysis, and introduce propositions regarding the interrelationship between formal and informal learning.

Finally, chapter 6 will summarise conclusions from the study, and suggest implications for future research and practice in organisations.

2 Theoretical framework

This chapter presents the theoretical background and framework for this research. The chapter will consist of seven main sections. These sections have been organised under the headings of organisational learning, formal and informal learning, the learning organisation, two dimensions of knowledge creation, competence development, the 70:20:10 Model and finally a summary of the chapter is given. First, the section 2.1 discusses literature on organisational learning according to Filstad (2010). Filstad (2010) has also been chosen as one of the main theoretical basis for this study. Secondly, 2.2 is based on formal and informal learning. It also presents a combination of the two. This perspective emphasises why it is important with the combination of formal and informal learning. It is therefore natural that the third section, 2.3 is based on Senge's (1990) five disciplines on a learning organisation. Senge (1990) has also been chosen as one of the main theoretical basis for this thesis. Fourth, 2.4 is based on the two dimensions on knowledge creation according to Nonaka (1994). Fifth, 2.5 discusses competence development according to Lai. Finally, a summary will be presented of the chapter. The reason for choosing these theorists is partly because of the different theoretical positions that construct different meanings of the term learning. According to Filstad and Blaaka (2007), choosing a cognitive perspective ignores the importance of the social environments. However, it has also been said that the social perspectives lose the individual in understanding learning. Nonaka (1994), who will be discussed below, argues in accordance with a social understanding of learning. For this thesis, both an individual and an organisational perspective will be looked at. The individual perspective will be regarding theory, while the organisational perspective will represent the findings. For this thesis, the chosen literature is relevant due to the theorist's views on what learning is defined as, and how learning is present in the organisation. Furthermore, choosing this literature will help receive a better understanding in connection to the findings in this paper.

2.1 Organisational learning

The term "organisational learning" has over a longer period of time had various definitions and used in a variety of ways. Some of these include individual understanding (Thomas, Clark and Gioia, 1993), interpersonal communities (Argyris and Schön, 1978), and group decision making (Cangelosi and Dill, 1965; Crossan, 1991). Within the term, "organisational

learning”, there has been some confusion whether the term is a phenomenon at the individual or at the organisational level of analysis. There are several reasons for why this has become unclear. Firstly, organisational learning consists mainly of the individuals who are involved in the learning activities. This concludes that the organisation is the base of the individual learning processes. Secondly, it can be said that if the individuals do not learn, then the organisation cannot learn (Argyris and Schön, 1978; Senge, 1990). It can therefore be implied that individual learning is a condition for organisational learning.

One of the main characteristics of organisational learning from a socio-cultural perspective, is that learning occurs through participation in the social community. This perspective of learning points towards the study of human cognition in relation to the situation and the social context in which learning occurs (Filstad 2010). Furthermore, the aim of this perspective is to look at the relationship which individuals have with other people in the organisation, and how this affects their participation in the community. This is one of the main reasons for choosing to write this thesis from a socio cultural perspective. Since I am trying to find out how learning occurs and looking at the relationships between employees, deciding on a socio cultural perspective is more preferred than a cognitive approach for the literature. Another reason for choosing the socio cultural perspective is because the cognitive approach in terms of learning, views abstract knowledge as superior to that derived from practical application. Within the approach of socio cultural learning, learning is referred to as a relative permanent change in behaviour. While within the approach of cognitive learning, they argue that cognitivism includes meaningful behaviour, and the views of the people around are in focus. Billett (1996) however, argues that cognitive and socio cultural theories are compatible and complementary in understanding learning. Reason being that the socio cultural theories of learning (school and workplace learning) provide conceptual tools for understanding the social nature of learning (Tynjälä and Häkkinen 2005). Cognitive theories of learning make it possible to examine learning processes at the level of the individual (Ibid.).

Learning is a part of the daily work in the organisation, and cannot be dismissed. There is a variety of different forms for learning that can occur in an organisation, and in this thesis there will be a focus on the formal and the informal aspects of learning, and how these act in combination.

The connection between learning and competence development in the organisation has to divide what is called formal and informal learning. Informal learning can be understood as implicit and will occur without learning having had any specific learning goals, or being aware that learning occurs by itself. The term formal learning on the other hand refers to the learning that occurs through planning. This happens either in connection to planned courses through the organisation or in connection with external customers. Within the organisation the formal learning happens in connection to what is referred to as organisational developmental measures.

2.1.1 Learning as acquisition and learning as participation

Filstad (2010) emphasises the importance that in order to understand individual development of knowledge and how they acquire this knowledge, the social system of which we are a part of and the people we are in relationship with, and the expectations we are met with, have to be the deciding factors for all our learning and knowledge (Ibid).

Learning seen from the organisation's perspective is best seen in light of individual learning. Individual learning in the organisation has to be seen in association with the other employees and participants in the given organisation. Filstad (2010) emphasises that within the organisation individual learning is a prerequisite. The main reason for this is that individuals are participants in the workplace (Filstad 2010). In organisational learning there are several concepts one has to take in being able to understand it as a whole. These concepts are culture, attitudes, social interaction, motivation and collective learning. Since organisational learning is complex, it is important to open up for the different relationships that affect learning and knowledge for the organisations (Ibid). This is one of the prerequisites for being able to develop knowledge. Filstad (2010) defines organisational learning as follows:

“Organisational learning refers to the learning that happens in the organisation, but also organisational and employee relationships with external stakeholders, customers, competitors and others”. (Filstad, 2010:22).

When Filstad (2010) refers to organisational learning, there are two main perspectives that are discussed within organisational learning. These two paradigms of learning, each have

different epistemological assumptions and beliefs about knowledge and knowing (Filstad et al., 2007).

The first perspective is referred to as the participant perspective. In this perspective, learning is seen as a part of the everyday life in the organisation where individuals acquire knowledge that is grounded in practice. The second perspective is called acquisition knowledge. Within this perspective one distinguishes between two processes. The first process is the interaction between the individual and the social and material environment (Filstad 2010). The second process is the acquisition of knowledge that is based on knowledge from previous learning. By connecting these two processes together, they combine the knowledge we acquire with the knowledge we have learned. Filstad (2010) refers to this learning as the influence of internal and external condition, which is underlying for the individual's adaption and development of knowledge (Ibid).

Acquisition paradigm, seen as didactic teaching methods, is most commonly referred to as formal learning. When operating under an acquisition paradigm, the objective is to be taught. Within this perspective of formal learning there are three characteristics. In the acquisitions paradigm, one tries to find the best desirable form for learning. The first characteristic of formal learning, according to Filstad and Blaaka (2007), is to understand the basics of learning of an individual mind. The second characteristic of formal learning is of mental life. Here, learning is perceived to involve change in the contents of the individual's mind (Filstad and Blaaka 2007). In the third characteristic there is an assumption of a transparency of learning. Here there is an idea of something that has been learned can be made explicit.

Theorists within the acquisition paradigm focus on the individuals as learners, and on the cognitive aspects of work performance (Filstad and Blaaka 2007). In this connection, work performance is seen as thinking or reflecting, and it is taken for granted that the individual learns himself.

The second learning paradigm that Filstad and Blaaka (2007) refer to is known as the emerging paradigm of learning. This paradigm is most commonly known as informal learning, or "learning by participation", as it is known some places. Emerging paradigm sees knowledge as fluid, and that is constantly reconstructed through the social interactions between employees (Filstad and Blaaka 2007). The emerging paradigm can often be related

to a variety of social theories that are within workplace learning. It is further said that within emerging paradigm, the new employees learn through participation, and not through controlled teaching.

Learning as acquisition and learning as emerging have both been influenced by the discussion of formal and informal learning. According to Filstad and Blaaka (2007), the discussion has had a central place in the concept of workplace learning.

2.1.2 Learning as situated and legitimate peripheral participation

The term ‘learning as participation’ has often been connected to Lave and Wenger (2003). Lave and Wenger (2003) say that situated learning focuses mainly on the relationship between learning and the various social situations that take place (Lave and Wenger 2003). This means that learning becomes a result of being a social member of the community. This is further argued by learning becoming part of everyday life and can be linked to actions for example task solutions.

The concept of situated learning and legitimate peripheral participation comes from Lave and Wenger (2003), who introduced the terminology into organisational context. Legitimate peripheral participation is a process of learning where the focus is on the new employee becoming an experienced employee. Lave and Wenger (2003) point out that for the employee to become established in the organisational society of practise, this involves moving from peripheral participation to full participation. The employee has to have clear goals for learning. Since there are no specified rules or regulations, it can often become a challenge for the newcomer.

Since legitimate peripheral participation is not structured, there are some guidelines as to how the employee should act under varying conditions. This in turn draws the attention to the employee’s ability to participate in the community of practices. Mastery of knowledge according to Filstad and Blaaka (2007) is required by the newcomer in order to be able to move towards full participation in the social practice (Filstad and Blaaka 2007).

2.1.3 Communities of practice

Assumptions about learning according to Wenger (2004) are based on learning as individual and learning as experience. Learning as individual can be connected to classroom settings, while learning as experience is participating in a community. Therefore, Wenger (2004) sees learning as a social phenomenon.

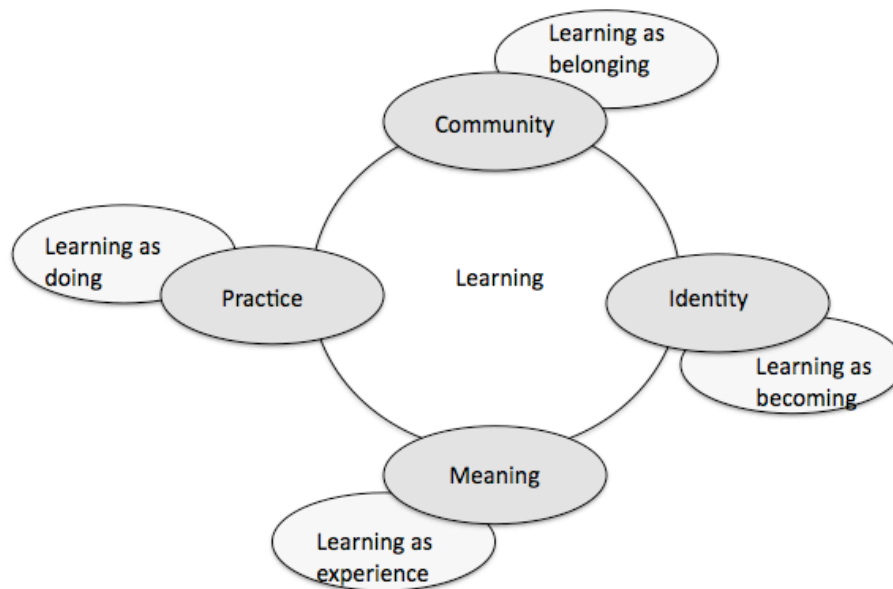


Figure 1. Components of a social theory of learning. Wenger (2004).

The social theory model presented in Figure.1 demonstrates that learning must be integrated in the components necessary in order to characterise social participation as a process of learning and of knowing (Wenger 2004). The four components are presented as interconnected and mutually defining.

Wenger (2000) describes communities of practice as “*shared cultural practices reflecting their collective learning...*” as “*...the basic building blocks of a social learning system because they are the social ‘container’ of the competences that make up such a system*” (Wenger 2000:229). Every individual belongs to a variety of communities of practice, and in the organisation there are smaller sets of people and communities. Lave and Wenger (1991) say communities of practice are described as dualistic systems of participation (the interaction), and reification (the focus created in a community). Learning takes place independently of existing intentional learning, and intentional teaching can even be contradictory to learning, and to the type of learning that happens in the workplace. Through communities of practice, the individuals share an understanding for something they do and learn how to do it better through interaction. In organisations, communities of practice

provide a focus on people and on the social structure. This enables the employees in the organisation to learn with and from each other. The communities of practice provide a direct link between learning and performance as a result of the employees participating in the communities of practice in teams (Wenger 1998).

Wenger (2000) argues that communities of practice are part of larger systems, which form constellations of interrelated communities of practice. Learning between these communities, or as Wenger (2000) says, 'learning at boundaries', results from divergences between competences and experiences which are presupposed by the contact with another form for competence. Wenger (2000), indicates that boundary learning is "*...likely to be maximized for individuals and for communities when the experience and competence are in close tension*" (Wenger 2000:233).

2.2 Formal and informal learning

Within organisational learning there are two main terms that are of importance. These are formal and informal learning. These two terms can be placed under the category of social perspective of learning.

Any organisation that aspires to succeed in the business environment has to be aware of the dilemma: that the market place depends profoundly on learning, and not everyone knows how to learn. Furthermore, members of the organisation who feel they are good enough learners often are not very good at learning at all. One of the major reasons organisations have problems bringing the learning side of the organisation forward is that they misunderstand what learning is about, and how to bring it forward. Argyris (1999) argues that there are two main reasons for this. The first reason is employees in the organisation often define learning as problem solving. As a result, they put their attention to identifying and correcting errors in the external environment (Argyris 1999). If the goal of learning is to persist, then all of the employees, including managers and leaders, have to reflect on their behaviour. Furthermore, they have to come to a solution in finding ways to identify the problems and change how they act.

If the organisation has goals to increase the learning, it is fundamental to have knowledge about the basic factors that can both inhibit and promote learning. There will be several

factors that inevitably affect learning. Employees who have been working in an organisation over a longer period of time often do not comprehend why they have to promote learning. For them, it is the newer generation who need to be taught. This is why it is important for all employees, regardless of age and seniority, to attend courses to promote learning.

Billett (2002) says that it is wrong to use the term informal learning. It is argued that using the term informal learning does little to assist the standing of, or the understanding about workplace learning environments (Billett 2002). This also reflects the structuring of the workplace. According to Billett (2002), the structuring of the learning experiences in the workplace are often inherently pedagogical as they are directed towards the continuity of practice through participant learning. It is also worth mentioning that workplace norms and practices also are a fundamental part of what constitutes employee performance in the workplace.

2.2.1 Formal learning in the organisation

Formal learning has to be present in organisations today. One of the main reasons for this is that without formal learning, the organisation cannot grow and develop. Filstad (2010) argues that organisations with too much focus on formal learning often have received criticism. There are many questions surrounding formal learning in organisations. Can formal learning be the courses employees attend, to then show colleagues what one has learned? Or is it structured classroom learning where one learns something specific and one then acquires new knowledge about that area? There are several questions surrounding what formal learning is, and they are essential to understanding the difference between formal and informal learning. Filstad (2010) had argued that formal learning will often take a form of classroom instruction, and will largely be structured (Ibid).

Filstad (2010) points out that formal learning by itself is not a negative solution in the organisation. It is rather that the skills needed by the organisation cannot solely be learned in a formal setting and education. For some organisations, it is better to learn through other employees within the organisation compared with attending courses and lectures. This can be explained by the fact that all individuals have their own strengths and weaknesses. By teaching other employees their strengths, they will learn through experience. Filstad (2010)

also claims that informal learning will occur in any organisation regardless, because learning will take place through how tasks are solved (Ibid).

Billett (2002) proposes that both the views promote situational determinism and deemphasises the role of the human agency in the construction and further development of their knowledge. With this, it shows that even the most structured learning experiences can shape the individual's learning. It is therefore possible to say that it is probably neither helpful nor precise to describe learning outcomes on the basis of the structuring of the learning experience (Billett 2002). In summation, Billett (2002) proposes that the core of workplace pedagogic practices can be understood through a consideration of reciprocal participatory practice at work, which includes tension between the goals of the individual's continuity as ontogenetic development, and the continuity of the work practice including particular interests within the workplace (Ibid).

Formal learning is often seen in connection with traditional educational frameworks. Eraut (2000:114) characterises formal learning into these five domains:

- A prescribed learning framework
- An organised learning event or package
- The presence of a designated teacher or trainer
- The award of a qualification or credit
- The external specification of outcomes

Formal learning is usually scheduled and the learning is accomplished through courses and workshops.

According to Wadel (2008), in a learning organisation the formal working conditions are seen as flexible. This means that the tasks and jobs, which are executed within the formal relations, can also be executed within the informal settings of the job. Another interesting point that Wadel (2008) makes, is that it is the informal setting in the organisation, which is both complex and extensive, that supports the formal learning setting.

It is the employee relations that Wadel (2008) feels is of importance when it comes to learning on the job. He calls the employee relations for "systems". These systems consist of informal learning which the employees create together. This produces learning-networks where the employees create and develop knowledge.

It can be suggested that instead of using the term formal learning, it is possible in knowledge organisations to use the terminology non-formal learning. A good reason for using this term is because formal learning has often been associated with learning provided by education. By using the term non-formal learning the learning is not structured in terms of the learning objectives. This form for learning is not often related to certification. In non-formal learning the individual's learning perspective is also generally intentional.

2.2.2 Informal learning in the organisation

According to Eraut (2000), informal learning is often seen as a residual category to describe learning, which does not take place within, or follow a formally organised learning programme or event (Eraut 2000:114). Filstad and Blaaka (2007:28) characterises informal learning according to four organising principles:

- Context: learning occurs outside formal educational settings
- Cognisance: intentional and incidental learning
- Experiential: practical and judgemental
- Relationships: learning through relations with colleagues

The four principles of informal learning listed above, can be seen as central features of work as practice and the employee's development. Informal learning is often integrated with daily work operations and is often linked to the learning of others. It is also worth mentioning that informal learning usually occurs intentionally or inadvertently. Furthermore, informal learning is often linked to the learning environment by creating learning relationships between employees. Filstad (2010) argues that informal learning is one of the most common forms for learning tasks. Furthermore, she argues that knowledge is not something the organisation has, but must be seen in context of what the employees are doing (Ibid). With this form for informal learning, the employees are able to develop the necessary knowledge and become professional in a competent manner. It is therefore important to look at colleagues as sources of knowledge, as a teacher at all times, and that learning is a part of being present and being a participant in the organisation (Ibid).

Informal learning in the workplace has to follow a set of principles according to Filstad (2010). One of the main reasons for this argument is that it becomes difficult for the employees to concretise what they are actually learning in the workplace. Filstad (2010) says

that this is the main characteristic for informal learning. Informal learning has been said to be the most common way of gaining knowledge in the workplace, and to learn tasks and projects.

Although a lot of academics associate informal learning positively, there have been some critique to that form of learning. Dale and Bell (1994) say that with informal learning, the employees can become too narrow, and only learn part of a task. It is further argued with this that these superficial skills may not be transferable. Dale and Bell (1994) also point out that with informal learning, the employees are not always able to build confidence, which in turn might not always lead to development. Filstad and Blaaka (2007) says that overvaluing informal learning will lead to the employers being given fewer possibilities to participate in formal, off-the-job learning (Filstad and Blaaka 2007).

Employees in the organisation will often on their own initiative, find information and updates on material that is needed for their daily work tasks. One of the main motivations for doing this is to update their own competence in a way that they can perform their work tasks in the best possible way, Thereby this also increases the possibility for their own career advancement (Lai 2004). This can be seen as another important element of the informal learning that takes place in the organisation.

2.2.3 Combining formal and informal learning

The informal and formal learning can be seen as being connected according to Colley, Hodkinson and Malcolm (2003). They argue that formal and informal learning are interrelated. They have found out that an employee takes ideas and knowledge from a course and integrates them, not only into their own work, but also into the discussions and practices of their department colleagues (Colley et al., 2003).

“The challenge is not to combine formal and informal learning, but to recognise that they are always combined, and to then understand the implications of their particular balance in any learning situation” (Colley et al., 2003:08).

Illeris (2011) claims that there is a great deal of evidence showing that it is often difficult for employees to make the connection between formal learning and workplace practice. One of

the reasons for this is that the workplace provides two different forms of learning spaces that are based on varying conditions and cultures. These two are described as; the learning-oriented environment and the production-oriented environment of the workplace (Illeris 2011). Another factor, which has not been mentioned, is that the employees prioritise their learning based upon their own interests and the situation they are in. The different rationales mentioned above go up against each other and the learning spaces form an interaction.

Another aspect worth mentioning is that it can be impossible for the participant to apply what has been learned to their workplace, other tasks or situations. Conversely, what the individual has learned at the course can directly contribute to the change and the development of the workplace (Ibid).

Illeris (2011) proposes that the function of courses and other learning activities is to provide direct interaction with the workplace and make the employees seek to develop forms for cooperation and participation. This participation will mostly result in the employees having a break from the daily environment at work. Through experiencing these different surroundings and working together across the boundaries, the participants will learn something new and important.

Slotte, Tynjälä and Hytönen (2004) do not see learning as being an individual process, but as a social, collaborative and organised one. They argue that learning can be seen on three levels; the level of the individual; the level of teams and social networks; and the level of the organisation (Slotte et al., 2004). On the organisational level, learning is perceived as embracing the activities of an organisation, which is continuously expanding to create a future. On this level, the individuals are able to change and become more effective (Ibid). The employees are members of learning organisations where they expand their thinking and create new knowledge. On the middle level, the employees gain new knowledge through networking, teams and collaborative learning (Ibid). Slotte et al. (2004) argue that it is through this collective learning most of the formal learning happens. In continuous learning, all the three levels should be taken into consideration. Figure. 2 represents the elements illustrating that formal and informal learning are equally important elements of learning. The model shows that formal and informal learning entails different processes and different outcomes. Informal learning occurs as a part of everyday work processes, and produces tacit knowledge, formal learning takes place in the context of organised training and is meant to generate explicit and formal knowledge (Ibid).

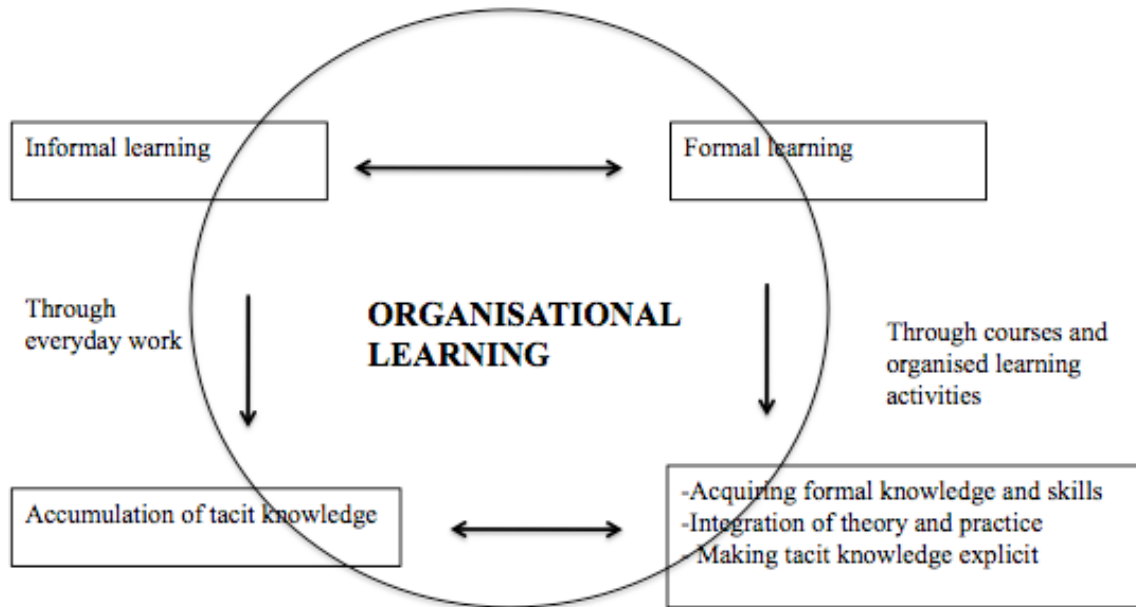


Figure 2. The relationship between formal and informal learning at work. Organisational learning model by Slotte, Tynjälä and Hytönen (2004).

Research conducted by Colley, Hodgkinson and Malcolm (2003) indicates that with the combination of formal and informal learning, there is still a lot to be looked at. They argue that formal and informal learning has often been seen as separate, which results in a form for polarisation between them. In their research it was found that the goal is not to combine formal and informal learning. One of the reasons for this they argue is that formal and informal learning are both present and interrelated. Colley et al. (2003) argue that one should recognise and identify them. By proposing this, it is possible to understand the implications of the balance and the interrelationship between the two. By seeing the interrelationship between formal and informal learning the concept of non-formal learning is redundant. The term non-formal learning implies that there is some sort of middle-state between formal on the one side, and informal on the other (Ibid).

It can further be argued, according to Malcolm, Hodgkinson and Colley (2003) on their research, that attributes on formal and informal learning are present in all learning, but that the interrelationship between them will vary from situation to situation.

2.3 The learning organisation

The terminology, “the learning organisation”, is often associated with theorists like Senge’s (1990) theory about the fifth discipline, and Argyris and Schön’s (1978) theory surrounding single and double loop learning. Organisational learning is wide and diverse, but it is Senge who has given the theory such a big name. By focusing on Senge’s (1990) theory it is possible to find reflected, and legitimate thoughts on a variation of ways to develop the organisations that promote continual learning and development in society. For this thesis, using the theory presented by Senge helps the reader receive a better understanding of how the organisation works, and how it is able to grow and develop.

Senge (1990) argues that it is only the organisations that are flexible, adaptable and productive that will be able to make changes when necessary. Filstad (2010) underlines that this is only possible if the employees within the organisation are stimulated to look at all of the proactive participants who make their own reality, and who understand reaching for the future (Filstad 2010). The learning organisation can be divided into three different concepts; individual learning, organisational learning and patterns. Senge’s (1999) theory is not directly based on learning, but on the other hand focuses on the organisational conditions that help to promote organisational learning. Senge (1999) defines a learning organisation as follows: *“A learning organisation will be a place where people in the community constantly develop their capacity to create the results they truly want”*. (Senge 1990:03).

“The learning organisation” is a highly charged term because Senge’s (1999) model is a vision in which the organisation strives to achieve. The organisational model involves a combination of five well-known features or disciplines of learning in the organisation. The five disciplines are; systems thinking, personal mastery, mental models, shared vision and team learning. Systems thinking is actually the fifth of the disciplines, but is presented first because all the five disciplines are developed parallel. Furthermore, systems thinking is the discipline, which integrates the other components and in the end turns this to both theory and practice. The goal with Senge’s (1990) model has to do with how we think, and how we interact and learn with one another.

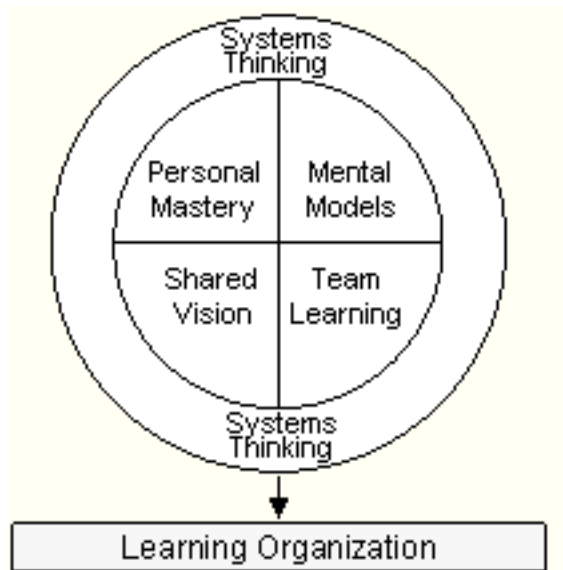


Figure 3. The five disciplines: Personal mastery, mental models, shared vision, team learning and systems thinking. It is systems thinking that binds all the disciplines together in reaching the “learning organisation”. Systems thinking contribute to the disciplines connecting and are not seen as separate. (Senge 1991).

Personal mastery

The first discipline, personal mastery, is about the spirit of the learning organisation. This can also be seen as self-awareness. What this means is that the organisation can only learn through the individuals that learn. A contrast to this is that individual learning does not guarantee organisational learning. Personal mastery can then be understood as a discipline for personal growth and learning (Senge 1990). Even though personal mastery is grounded in competence and skills, it goes beyond this and becomes a discipline, seen as an activity we integrate into our lives. In personal mastery, the term learning means not acquiring more knowledge. It focuses rather on expanding the ability to produce the results we truly want in life (Ibid). This can also be seen as life long learning, and in an organisation this means that employees have to practice and produce knowledge. In the learning organisation personal mastery is important because employees live in a continual learning mode. Another factor that is important in personal mastery is that not many organisations encourage the growth of the people who work in the organisation. One of the reasons for this can be seen in relation to the resources the organisation provides. Senge (1990) here refers to the connection between personal learning and organisational learning. Another important fact to bare in mind, is that personal mastery also goes beyond competence and skills, but it still involves them.

Mental models

The second discipline, mental models, are about generalisations we make about the way we understand the world. In the organisation mental models are used to represent beliefs, values and assumptions that determine the way people think and act. In the working organisation it is important to foster openness among the employees, and at the same time guiding them in the right direction. This is to prevent the mental models from putting ideas into practise. The mental models can be defined as individual images of the work and how elements fit together. These images are a part of shaping our action and decisions.

Shared vision

The third discipline, called shared vision, refers to the leaders in the organisation working towards a shared picture they want the organisation to represent and create. According to Senge (1990) there has never been a larger need to master team learning in the organisations than there is today. The shared vision Det Norske Veritas has is safeguarding life, property and the environment. Senge (1990) argues that when there is genuine vision, persons in the organisation will excel and learn, not because they are told to, but because they genuinely want to. In an organisational perspective shared vision is important because it provides focus and energy for learning.

Team learning

The fourth discipline is called team learning. Team learning is vital because teams, not individuals, are the fundamental learning unit in a modern organisation (Ibid). This means that if the teams and the employees do not learn, then the organisation does not learn and develop. Another way of looking at team learning, is that discipline is a developmental path of acquiring skills and competence. Within the discipline of team learning, it is worth mentioning that “dialogue” is an important word. The reason for this is because with dialogue the team is able to suspend assumptions and enter into what Senge (1990) refers to as “thinking together”. If the team is able to think together, then the employees can accelerate learning.

Systems thinking

The fifth discipline, which is called systems thinking, recognises the interconnection between parts that make a whole of both theory and practice. The disciplines of shared vision, mental models, team building and personal mastery have to be present in systems thinking. Shared vision fosters commitment and mental models focuses on ways of seeing the world. Team

learning focuses on the development of skills that go beyond the individual perspectives, and personal mastery is based on the motivation to continually learn.

Senge (1990) also talks about the most powerful learning coming from direct experience. However, with this powerful learning being direct, there will come a time when this direct experience becomes impossible. This learning dilemma will at some point confront the organisation. As Senge (1990) says:

“We learn best from experience but we never directly experience the consequences of many of our most important decisions” (Senge 1990:23).

This type of creation that comes from organisational learning is based on the establishment of a group that learns new ways to work together. Within this group they discuss priorities, work through divergent thinking and convergent thinking to come to conclusions and implementations of the solution. Another aspect of this is that with learning organisations the individuals discover how to work together with individual styles, and allow for reflection and other individual needs.

Furthermore, Senge (1999) says that, “the learning organisation” is double sided. With this he means that the organisation itself can only learn if the employees learn. A contrast to this on the other hand is that individual learning has no guarantee for learning in the organisation. He concludes this by saying that without individual learning, there is no organisational learning (Senge 1999). It has also been said that in today’s society there is no simple recipe and solution to the problems we are faced with.

Illeris (2011) says that work-place learning does not only occur in the workplace such as landscape working. He emphasises that work-place learning increasingly takes place during courses, in networks, and in more private work-related contexts. Work-place learning, according to Illeris (2011), is used to describe learning that can take place in all such work-related connections (Illeris 2011). For this type of work-place learning to exist and function there has to be an encounter between the learning environment of the workplace, and the employees’ learning potential. For Illeris (2011) the learning environment is referred to as the opportunity for learning that is contained with both the material and social surroundings (Ibid). The employees’ learning potential is referred to the individual’s complex experiences as a continuous learning process.

According to Illeris (2011), social interaction is important for learning possibilities within the organisation. Learning takes place as a social process when the employees have discussions or reflect on or exchange experiences (Ibid). Another important factor, according to Illeris (2011), is through the contradictions that occur in meetings, between the various professional groups- that the fruitful learning environments are created.

2.4 Two dimensions of knowledge creation

Nonaka (1994) emphasises the social processes, new knowledge and insights become developed in the creation of several contributors and their thinking can be seen in connection to a socio-cultural learning perspective.

According to (Nonaka 1994) organisational knowledge is created through a continuous dialogue between what is called tacit and explicit knowledge. Even though the individual himself develops knowledge, the organisations play an important role in articulating and amplifying that knowledge (Nonaka 1994). This raises the question of how organisations process knowledge and how they produce new knowledge. The organisations have often been seen as systems that processes information or solve problems. In this paradigm it is suggested that the solution lies in what Nonaka (1994) calls the “input-process-output” sequence of hierarchical information processing.

2.4.1 Tacit and explicit knowledge

Some basic aspects of the theory of organisational knowledge creation start by drawing a distinction between tacit and explicit knowledge (Nonaka 1994). This epistemological dimension to organisational knowledge creation embraces what is known as a continual dialogue between explicit and tacit knowledge, which is the drive for new ideas and creations. It is well known that it is the individual who creates the ideas in their minds, however, interaction between individuals is needed and plays a critical role in developing these ideas. Nonaka (1994) points out that the communities of interaction are contributing factors to the amplification and development of new knowledge (Ibid). This then becomes

associated with the social interaction between employees who share and develop knowledge. This form is known as the ontological dimension of knowledge creation.

The knowledge spiral that is illustrated in Figure 4. is a model that shows the relationship between the epistemological and ontological dimensions of knowledge creation. The spiral demonstrates the creation of a new concept that shows the continual dialogue between the tacit and the explicit knowledge. Nonaka (1994) mentions that as the concept resonates around an expanding community of individuals, it is both developed and clarified (Nonaka 1994).

Explicit knowledge refers to the knowledge that is transmittable in formal, systematic language (Ibid). Tacit knowledge refers to the knowledge that is rooted in action, commitment and involvement in a specific context. In tacit knowledge both cognitive and technical elements are involved. The cognitive elements are based on mental models that form working models of the world. These working models include paradigms that provide perspectives, which in turn provide individuals with help to perceive and define their world. In contrast, the technical elements of tacit knowledge cover the concrete know-how and skills, which are applied to specific contexts (Ibid).

The spiral developed by Nonaka (1994) theorises that learning can be developed with the integration of the different factors. The spiral does not give emphasis simply on explicit knowledge such as reading. A benefit of using the spiral model is that knowledge creation becomes more easy and accessible. One of the reasons for this is that learning comes from socialisation, where tacit knowledge is combined with explicit knowledge. This results in internalisation of new knowledge for the employees.

By identifying the four different patterns of interaction between tacit and explicit knowledge it will help the individual transform existing knowledge into new knowledge. This social interaction between the individuals provides what we know as an ontological dimension to the expansion of knowledge (Nonaka 1994). The four modes of knowledge creation are created with the assumption that knowledge is made through conversation between tacit and explicit knowledge. This allows us to demonstrate four different modes of knowledge conversion; 1 from tacit knowledge to tacit knowledge, 2 from explicit knowledge to tacit

knowledge, 3 from tacit knowledge to explicit knowledge, and 4 from explicit knowledge to tacit knowledge (Ibid).

	Tacit Knowledge To Explicit Knowledge	
Tacit Knowledge	Socialization	Externalization
From		
Explicit Knowledge	Internalization	Combination

Figure 4: Four modes of conversion (Nonaka 1994).

The first mode of knowledge conversion illustrates that it is possible to convert tacit knowledge through the interaction between individuals. In an organisational setting this can be understood as on the job learning, since the same principles are applied. The process mentioned above of creating tacit knowledge through shared experience is known as socialisation. One of the key elements to acquiring tacit knowledge is through experience. The second mode of knowledge conversion involves the use of social processes to combine the explicit knowledge held by individuals (Nonaka 1994). This mode is used when the employees exchange knowledge in meetings and conversations. By reconfiguring current information it is possible to recontextualise the explicit knowledge and create new knowledge (Ibid). This process, explicit knowledge from explicit knowledge is known as combination.

The third and fourth modes of knowledge conversion are related to the conversion involving both tacit and explicit knowledge. The two remaining conversions shows that tacit and explicit knowledge are complementary and can over time expand and become a process of mutual interaction (Ibid). The first conversion is externalisation, which occurs when conversion of tacit knowledge turns into explicit knowledge. The other is the conversion of explicit knowledge into tacit knowledge. This bears some similarities to the notion of learning.

With Nonaka (1994) modes of knowledge creation it is possible to connect socialisation, combination and internalisation with organisational theory. This is better illustrated by socialisation being connected to theories of organisational culture, and combination being connected to information processing, and internalisation being associated with organisational learning (Nonaka 1994).

2.5 Competence development

2.5.1 Developing competence in the organisation

Larsen, Longva and Reichborn (1997) describe that competence has to do with ability, not purpose. The competence term has to do with the ability to solve a variety of problems and perform tasks, not the will to do it (Larsen et al., 1997). To understand the skills of the organisation, it is a good idea to distinguish between four different purposes of the development of skills in the organisation. The four are; introduction training, maintenance and updating, development, and development of restructuring expertise.

Introduction training has its purpose to train for tasks and different responsibilities. It is necessary to have some training time to master future tasks and learning skills that take place both within the organisation, and learning through outside jobs. Examples may be courses for employees, where introductory training is a necessity and a requirement.

Maintenance and update has its purpose to keep employees in the organisation up to date. This form for maintenance and update has a goal to teach the employees new knowledge, which is often updated; an example is technology. For those who work in an organisation it would be a requirement to update their skills that are relevant for the job they have (Larsen et al., 1997).

Furthermore, development of competence is intended to expand skills so that employees have the opportunity to master new tasks and develop within their job field. This can be a necessity because new jobs require new tasks, and one can learn in a more efficient manner. Further development of skills is also needed to develop competence that is directly associated with

the execution of the work at hand, and it can also be a set of developing ones competence skills aimed at new jobs (Larsen et al., 1997).

Development of restructuring expertise intends and aims to increase the employee's ability to process restructuring the various tasks in the organisation. It is also important to see competence as a factor in the development of the organisation's flexibility, product development and production methods (Larsen et al., 1997).

It is only in the recent 30 years that organisational learning has emerged from being dormant and founded its interest in different organisations. Organisational learning has been linked to both the positive and negative sides of the organisation. One of the reasons for it becoming more negative has to do with economic outcomes, which in turn can lead to more concentration of power and dominance within the organisation (Døving, Tobiassen and Lines, 2007). By focusing on the more positive aspects of organisational learning variables like increased democratisation and personal development help lead the organisation into the future by providing training for employees.

Dalin (1993), on the other hand, argues that competence development in organisations enhances the more human factors, which are of importance for growth in the company (Dalin, 1993). By increasing the employee's competence this will help develop a set of factors. An example of these factors is that competence development, as leader responsibility will increase within the organisation. Furthermore, one can note that organisations per today risk more on competence development than they used to do some time ago. Dalin (1993) argues that the relationship between employees and leaders is more established and that there has become a more organised outcome than before (ibid.).

2.5.2 Competence-in-use

In recent years, organisations all around the world have devoted more time, effort and resources to competence development. Studies have also indicated that competence development stimulates and permits the employee's wellbeing and personal development (Ellström and Kock 2008).

There are three main views of competence that are argued by Ellström and Kock (2008). These three views are based on the concept of competence that has implications for competence development. This can be seen from the perspective of the individual and from the perspective of the organisation and the society. The first view of competence can be looked upon that competence is an attribute of an individual. This means that there is a distinction between the formal competence, and actual competence. Actual competence is referred to how the individual handles a situation, or how the individual performs a task. The second view of competence refers to the job requirements. Here it is important to distinguish between prescribed or actual requirements (Ellström and Kock 2008). Prescribed requirements refer to the demand of competence, whilst actual requirements refer to competence that is required for the actual job. The third and last view of competence argues that competence is based on the interaction between the individual and the job. Secondly, it is argued that competence can be called “competence-in-use”, since the focus lies on the individual who is performing the job. It is important to see that these three views have different implications when it comes to the concept of competence. One of the reasons for this is that the perspective of the individual and the perspective of the firm should be seen separately.

Competence-in-use can then be seen as a dynamic process of learning mediating between the capacity of the individual and the requirements of the job (Ellström and Kock 2008). This can be explained further by both factors related to the individual, and the factors that are related to the job may actually either facilitate or limit the extent to which the individual may use and be able to develop their actual competence (Ibid).

Ellström and Kock (2008) define the concept of competence development as the following: “an overall designation for the various measurements that can be used to affect the supply of competence on the internal labour market i.e. individual employees or the whole personnel group” (Ellström and Kock 2008:7).

This can be understood as measures regarding education or training of the personnel. This can also be understood as internal or external courses, and planned changes of work organisation through work development and team organisation. This then has the objective of furthering informal learning at work. The term competence development can also be divided into what is called organisation-related and individual-related competence development.

Organisations have to invest in competence development because of what is often called a technological-functional perspective. The terminology refers to competence development as increasing competence requirements due to altered environmental conditions. The changes in the organisation can refer to the view of education and other forms of competence development as means or tools for competence-increasing learning. Ellström and Kock (2008) refer to this as learning on an individual level in the form of increased knowledge, increased competence which then goes to the next phase, known as means of achieving objectives in the form of increased growth and developed welfare on the organisation's level (Ellström and Kock 2008).

2.5.3 Systematic competence development

According to Lai (2004), systematic competence development concerns the measure to achieve or enhance learning in the organisation. It is further said that the term learning shows to the processes which are attached to the acquisition of competence. The term competence development can therefore be divided into formal learning on the one side, and measures to which one can facilitate the mobilisation of expertise and informal learning on the other side (Lai 2004). When discussing learning it is important to know that learning is not an isolated phenomenon, however, a process that interacts in connection to both cognitive and social processes. In an organisational setting learning, according to Lai (2004), will occur through dialog with colleagues, through discussion with colleagues, and learning in the organisation itself. The various learning processes mentioned are strengthened even further through motivation and in connection to the organisation's goals and needs.

2.6 The 70:20:10 Model

For Det Norske Veritas the 70.20:10 Model has become the basis of organisational learning strategy, and was developed by Morgan McCall, Robert Eichinger and Michael Lombardo at the Center for Creative Leadership in North Carolina.² The Centre for Creative Leadership is

² The 70:20:10 Model has its origins in the work of Morgan McCall, Robert Eichinger and Michael Lombardo at the Center for Creative Leadership in North Carolina in the mid-1990s and even earlier with Alan Tough, now Emeritus Professor at Toronto University.

a global provider of executive education. The 70:20:10 Model provides the organisation with a framework for thinking outside the common classroom setting of learning, and focuses more on the entire spectrum, which can be summed up as workplace, social and formal. It provides learning and development professionals who are constantly being asked to do more with less, with some tools to build awareness within an organisation. It can be seen that important and effective learning happens both within and outside of formal events.

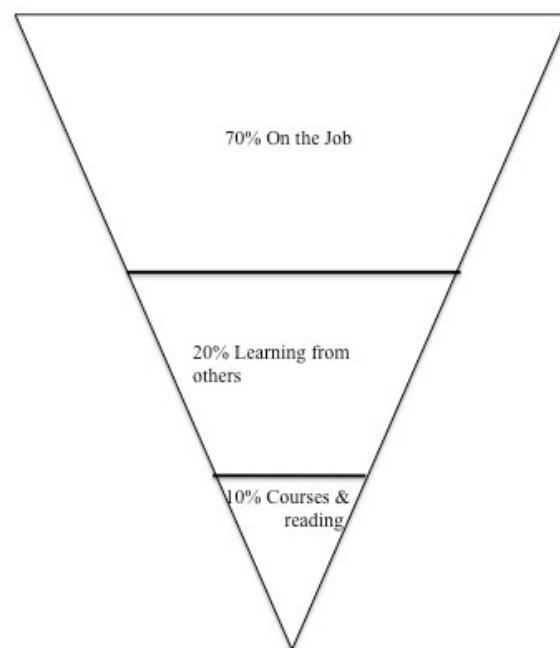


Figure 5. The 70:20:10 Model

Figure 5. shows that 70% learn and develop through experience, 20% learn and develop through others, and the remaining 10% learn and develop through structured courses and programmes. The 70% examples are applied to new learning in real situations, use feedback to try and approach a new problem, increased decision-making, take part in project or work group. The 20% examples are informal feedback and work debriefs, coaching from manager and others, structured mentoring with feedback, learning through teams and networking. The

A book by Eichinger and Lombardo published in 1996 laid out the basis for 70:20:10. (The Career architect Development planner).

remaining 10% examples are courses, workshops and seminars, eLearning, formal education and certification.

At Det Norske Veritas they have 10%, which represents 200 days with courses, yearly planning processes, and class qualifications. The organisation does not use the 10% directly on improving their competence, but rather on improving their structure. They are determined to become more aware and use structure to move on to the 20-70 parts. Their goal is to only use what is necessary of learning during courses and classroom based learning. Since DNV is such a large organisation the different sections of the company use the 10% of formal learning in different ways. For the Maritime section it is vital that they have more theoretical courses and classes, rather than Oil & Gas, where practical formal learning is more adequate.

20% of the model is based more on best practise mentoring. The concept used is senior and junior. Here the goal is for the senior staff to transfer their knowledge to the juniors. This form of learning is often called knowledge transfer meetings. Another part of the 20% is cooperating with the HR management with hiring of new employees. Det Norske Veritas has chosen to step away from the traditional boot camp for new employees, and rather focus on learning in the workspace when one is in that particular situation. 20% of the learning according to the model shows that the social learning occurs when we interact and learn from others. Examples of this can be through informal coaching and having the right personal network to help solve various problems at work, or simply by knowing the right person to ask.

70% of the model focuses on individual competence development plan. The model focuses more on learning by doing on the job. One of the reasons being that one often learns more on the job through experience and by having the opportunity to practice what one learns. This is commonly known as learning by doing, and most of our learning comes through experience and the opportunity to practice.

2.7 Summary

As it has been mentioned earlier that the term “organisational learning” has had a variety of definitions, where it is mainly the individuals who are involved in learning activities in the organisation. It can therefore be said that the organisation is the base of the individual

learning process, and that if employees do not learn, then the organisation will not learn (Argyris and Schön, 1978; Senge, 1990). The connection between learning and competence development in the organisation is defined by what is referred to as formal and informal learning. Informal learning can be understood as learning that occurs outside of the formal educational system. Furthermore, in the organisation this can be seen as on-the-job learning. Formal learning on the other hand refers to being scheduled and learning is accomplished through courses and workshops.

So, how does the organisation become a learning organisation? As Senge (1990) says, it is only the organisations that manage to become flexible, adaptable and productive that will be able to make changes when necessary. However, this is only possible if the employees within the organisation are stimulated to look at the employees who are reaching for their future goals (Filstad 2010). Senge (1990) presents a learning organisational model, which is meant to show how employees think, and how they interact with one another in the organisation.

Within the term organisational learning there are two dimensions of knowledge creation that are worth mentioning. According to Nonaka (1994), knowledge is created through dialogue between tacit and explicit knowledge. Although it has been mentioned that it is the individual who develops knowledge, the organisation role in articulating and amplifying this knowledge is important. Nonaka's (1994) theory is therefore furthermore based on how the organisation processes knowledge, and how it creates new knowledge. The knowledge spiral created by Nonaka (1994) is meant to illustrate the continuous dialogue between tacit and explicit knowledge. The communities of interaction are contributing factors that are involved in developing new knowledge.

This thesis concerns organisational learning in a knowledge-creating organisation. The literature on organisational learning and competence development above point out important issues which need to be addressed. Reason being in order to successfully engage in learning in the organisation. Being able to combine formal and informal learning in the organisation and acting on this, is seen as crucial for organisational learning. The question then is, how is it possible for organisations to accomplish this by not placing too much emphasis on one of the areas. Colley, Hodkinson and Malcolm (2003), provide an important contribution on the interrelationship and combination of formal and informal learning. With this insight it is

natural to focus on making this combination best possible for the organisation. The main research question is therefore:

How does the interplay between formal and informal learning take place in the organisation?

As it has been pointed out earlier in this thesis, the purpose of organisational learning is ways to explore and design the organisation in a way that they will fulfil their function effectively, and to encourage employees to reach their full potential.

In addition to the search of a combination of formal and informal learning, it might also be interesting to search for competence development as it occurs in the organisation. Therefore, the thesis also provides an overview of what Ellström & Kock (2008), and Larsen, Longva and Reichborn (1997), call competence development as relevant to organisational learning. According to Larsen, Longva and Reichborn (1997), competence has to do with ability and not purpose. Competence has to do with the ability to be able to solve a variety of problems and be able to perform tasks. Ellström & Kock (2008) refer to competence as both individual and organisational. On the individual level there is a distinction between formal competence and actual competence. On the organisational level, competence refers to the job requirements, and that having competence is a prerequisite for a job. Furthermore, they argue that competence is based on the interaction between the individual and the job itself.

The 70:20:10 Model, which DNV uses is based as a framework for organisational learning. The model is designed to provide the organisation with a framework for thinking outside the common classroom setting of learning. It therefore focuses more on the entire spectrum, which can be summed up as workplace, social and formal learning. According to the model, 70% of learning is developed through experience. 20% is learned and developed through peer and leader interaction, and the remaining 10% is learned through structured courses and programmes.

In the previous chapters I have explained the theoretical basis for this thesis. In the next section I will present the methodology for this thesis.

3 Methodology

In this chapter, I will discuss my choice of method and the choices that underlie the empirical research process. I will present both positive and the negative effects this brings, and the different challenges I have met whilst writing this thesis, surrounding both my data collection and my research question. First, the research design based on a case study will be presented. Secondly, the data collection based on interview and observation is addressed. Third, the case selection and the selection of the informants will be presented. Fourth, the data analysis and the ethical reflections will be addressed. At the end a summary of the methodological issues will be presented.

3.1 Choice of method

Since the theme of this thesis is based on organisational learning, it is important to distinguish between the levels. The literature will be presented on an organisational level, while the data from the research will be based on the opinions of individuals. With this data, it will be possible to connect individual learning to organisational learning levels. On an individual level the goal is to inherit in a personal stream of experience according to Filstad and Blaaka (2007). The second goal on this level is to interpret and explain to others. On an organisational level the goal is to develop shared understandings among the individuals. The differences between the individual level and the organisational level is to view how learning in the organisation occurs and how, as a result of this, knowledge is developed. The observations of learning at the individual level and organisational level will give insight into how as a result of this knowledge is developed.

The choice of method usually depends on the type of research one is conducting (King and Horrocks 2010). The type of research design chosen for this thesis is a case study, which is furthermore based on qualitative data (Ibid). One of the reasons for choosing qualitative method is because I am searching for a deeper understanding, I am not looking to confirm or deny an existing theory. The goal for this thesis is not to provide undisputable conclusions, but rather to explore how formal and informal learning occurs in the organisation, and if it is possible, to see if there is a connection between the two. Based on the research questions, the

design chosen is qualitative data. It is not with intention to confirm or deny that a thesis's hypothesis stands, since the usage of quantitative method in similar studies is not significant enough. Furthermore, the number of research objects does not satisfy enough to be able to generalise. (Kleven 2002:23). Therefore, by choosing qualitative methodology it will be possible to go more in depth than what quantitative research does (Kleven 2002). Dalen (2011) says that one of the main goals of qualitative research is to develop an understanding that connects to the person and the situation in their social reality (Dalen 2011).

Furthermore, qualitative research has an intention to be able to collect data from the informant's meanings, self understanding, intentions and attitudes, which are all central (Befring 2007). When it comes to participation, qualitative research has been selected to create a dynamic interaction between the person interviewing, and the informant being interviewed. This can be seen in comparison to quantitative research, where the goal is to describe, map, analyse and explain through the problem field with variables and size (Ibid).

Qualitative research is usually grounded in phenomenology. Reason being that we are trying to study the world as it is and the way people understand the world. One of the main rules for this form of research is direct and personal contact with the individuals one studies in their own environment (Vedeler 2000). These different cases are usually chosen on the basis of what one is trying to study. Furthermore, it is not possible to generalise like one does in quantitative research. The cases are chosen because they are of meaning and importance, as well as of interest for the researcher. Furthermore, choosing the cases will provide us with vital and important information, and not because they merely represent a population. As the researcher it is important to see the informant's perspective and seek to understand the informants on their own terms (Ibid). To be able to achieve this, it is important for the researcher to be neutral and understanding enough to reflect the information given by the informant.

3.1.1 A case study

Case studies can have a positive affect on research as they provide the tools to study different complex phenomena within their contexts, (Baxter and Jack 2008). There are two main approaches for researching a case study. The first is provided by Stake (1995) and the second

by Yin (2003). The methods in which they are employed are vastly different, however, they both seek to ensure that the topic of interest is well explored Baxter and Jack (2008). These two theorists, who are discussed in the article by Baxter and Jack (2008); *Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers*, are based upon philosophical underpinnings.

Both Stake (1995) and Yin (2003) base their theory for a case study on a constructive paradigm (Baxter and Jack 2008). One of the stronger reasons for using a case study for this thesis is that constructivism is built on the premise of a social construction of reality (Baxter and Jack 2008). This can be strengthened by the advantage of the collaboration between the researcher and the participant. Here the participant has the chance to tell their story. Furthermore, the participants have the advantage of being able to tell their individual stories and describe their view of reality, which in turn, enables the researcher to receive a better understanding of the participant various actions.

When is it best to use a case study approach for a thesis? Yin (2003), argues that a case study should be considered when: (a) the focus of the study is to answer “how” and “why” questions; (b) one cannot influence the responses of those involved in the study; (c) one would like to cover the contextual conditions because they may be relevant to the phenomenon under study; or (d) boundaries are not made clear between the phenomenon and context (Yin 2003). Since my thesis is surrounded with a focus to answer both the “how” and the “why” surrounding formal and informal learning, it would be logical to choose (a), and is also trying to discover the contextual conditions (c) then it is logical to chose a case study approach. The case study approach was further chosen because my investigation is about formal and informal learning in the context of learning and knowledge development in DNV, and more specifically, the interrelationship between formal and informal learning that is provided within the organisation. When writing this thesis and conducting the research, it would have been almost impossible to have a true picture of the formal and informal learning settings without considering the context in which it occurred (Baxter and Jack 2008).

Baxter and Jack (2008) argue that one of the downsides associated with a case study is that there may be a tendency for the researcher to attempt to answer a question that is too broad, or that the topic chosen has too many objectives (Baxter and Jack 2008). Since I have now determined what the research question is, and its boundaries determined, it is important to

consider what type of case study will be conducted. Yin (2003) and Stake (1995) use different terms to describe the different case studies. These cases are; (1) explanatory, which is mainly used if one is seeking to answer a question that sought to explain the presumed casual links in real life interventions (Yin 2003); (2) exploratory which is a type of case study that is used to explore those situations in which the intervention being evaluated has no clear and single outcome (Yin 2003); (3) descriptive is a type of case that describes a phenomenon and the real life context in which it occurred (Yin 2003); (4) Multiple-case studies enables the researcher to explore differences within and between different cases. Here the goal is to replicate one's findings across cases (Yin 2003); (5) intrinsic is a type of case study where the researcher has a genuine interest in the case. One should use this case if one seeks a better understanding of the case (Stake 1995); (6) instrumental is normally used when seeking to accomplish something other than just understanding a particular situation. Here, one has the opportunity to provide insight into an issue that can help refine a theory (Stake 1995); (7) collective case studies are similar in description to multiple case studies (Yin 2003).

In the previous chapter of the different approaches to case studies, this case study will fall under number 6, instrumental. The reason being that the 70:20:10 Model is a tool for formal and informal learning in the workplace, and furthermore, it integrates motivation, competence and knowledge. Another reason is that this helps provide insight into an issue and is often looked in depth (Baxter and Jack 2008). A holistic case study with embedded units will enable me to explore the case while considering the influence of the two different departments and associated attributes on formal learning in the workplace.

3.2 Data sources

For this study, the empirical sources include interview as the primary source of gaining data from the informants. A reason for choosing interview as the primary source for data was because I could then get a better, and even deeper understanding, as to how they learn in the organisation. In addition, to some degree, observation was also used so that I would have a better understanding of how the participants learn and interact at these courses. Choosing to observe gave me insight into how the participants gain networks and how they discuss the material that was taught at the course. The interview guide is built on the execution of a pilot

test. Below, a description of the pilot test is presented, before turning to the empirical sources.

3.2.1 A pilot test,- a “minipilot”

In a qualitative interview study a pilot test should be conducted so that the interviewer can test the interview guide (Dalen 2011). By conducting a pilot test one has the possibility to receive feedback from the interview object on how the questions were formed and how the interviewee thought the interviewer conducted the interview behaved. I conducted a pilot test interview to test the different questions for the interview guide. Another positive side by conducting a pilot test is having the chance to test the recording equipment (Ibid). Moreover, after having a pilot test and transcribing the interview, one has the possibility to change some of the questions and even the sequence of the questions being asked. After having completed the pilot interview one also might think of some new questions to ask, and one can even feel more comfortable after having conducted a pilot test. Some of the questions had to be rephrased and rewritten before the proper interviews. This was also to secure more validity with the interview guide. Since the setting was at DNV's headquarters, it was very relaxed when the participants were being interviewed (King and Horrocks 2010). Also, the interviews were set up so that there were some warm-up questions, which were then followed by more in-depth questions. At the end of the interviews they were supplemented by un-standardised questions. The reason for this was that I would be able to probe into some of the questions that had been asked earlier during the interview. Since there were two groups of participants that were to be interviewed, I made one interview guide and made small adjustments for the participants who had attended the two different courses.

3.2.2 Interviews as the primary method

Interview as an approach has a goal to get thorough and descriptive information on how people experience the different sides of a situation (Dalen 2011). This form for qualitative methodology helps pursue an insight into the informant's experiences, thoughts and emotions when being interviewed. Which form of interview one chooses has to be connected with purpose of the thesis and what type of target group one is dealing with? How does the researcher gain insight into the informant's work life, and is it at all possible to understand these people's work experience? The answers will depend on the phenomenon that is being

studied, and even the researcher's background, as well as the access to the informants (Dalen 2011). It is therefore important to read various literature about the organisation and the different methods of learning and knowledge used within the organisation. Also personal experience can be of importance to the interview.

3.2.3 Observation

The observation that was conducted made it possible to ascertain what people do, and what they say they do in reality. One of the advantages of being able to observe the participants is that there is more freedom and more autonomy when observing. When interviewing a sample, the informants may play a greater role in governing where the different questions lead.

Observation can be classified as systematic collection of information about the physical and social world as it is seen for us directly through our senses (Vedeler 2000). Observation also tells a story about what we reflect, and how we come to an understanding about the information that we receive. To be able to achieve this, we have to interpret our findings. Observational data as a tool gives the researcher the possibility to collect data about events, relationships and situations than any other data method gives (Ibid). Why should one use observation as a method? To be able to answer this, it is important to see what one is trying to research. Choice of research method often lies on the basis of what one wants to research. What am I looking for in this research? Who do I want to research? What am I looking to uncover? One of the main reasons for choosing observation as a second research method is as Vedeler (2000); observational research has been useful in connection to researching social interaction, social skills and social competence. The main reasons for using observation is to reflect and receive an understanding about the information received.

3.2.4 Abductive reasoning and phenomenology

Abductive reasoning is placed between inductive and deductive positioning of qualitative research. I have chosen this method of analysis because it addresses both the approaches mentioned above. Abductive reasoning highlights the relationship between theory and data (Thagaard 2009). The abductive approach implies the theory being developed on the basis of both systematic and in-depth analysis. Abductive reasoning is based on empirical data, which is a characteristic of induction. In addition, abductive reasoning uses theoretical

preconceptions, known with deduction. Since I started working early on my theoretical framework for the thesis, and in addition my knowledge of the organisation DNV can represent such a preconception (Thagaard 2009). The understanding the researcher gains can be connected to an already established theory, as well as the understanding the researcher gains from collected data. This analytic basis gives the researcher the chance to understand the meaning of the data. Abductive reasoning starts out with a set of incomplete observations, which seem to be the best possible explanation. The reason for choosing abductive reasoning is due to the fact that there can be several explanations of a phenomenon.

While phenomenologists are interested in illustrating how people experience a phenomenon in their world, hermeneutics are focused on the interpretation of meaning (Kvale and Brinkmann 2009). In this research paper I will be focusing on a pragmatic approach. Reason being that I am seeking reflections on how to both conduct and analyse an interview, given that my approach will focus upon what is interesting: Is it specifically how these courses are conducted, the meaning of different phenomena and the understanding of different definitions.

The target of the main interviews is to gain an understanding of the different sides of the person who is being interviewed. The research interview's structure is not related to the daily conversations, but rather focuses on a more professional interview intended and involving a certain method and a special technique for questioning (Kvale and Brinkmann 2009). One of the reasons for choosing phenomenology is it is seen as a concrete term pointing to an interest to understand social phenomenon from actors' own perspectives, and describe the world as it is experienced by the informants (Ibid). By focusing the interviews to the experienced meaning of the individual's world, phenomenology is able to become relevant in being able to clarify the understanding of the qualitative research interview (Ibid).

3.3 Selecting the informants

I was invited to observe a course held for Det Norske Veritas at Holmen Fjordhotell in September 2012. The participants who attended the course were there to learn about performance support, which is an important part of the work at DNV. The theory used in the

course is referred to as the “five moments of learning need”. Here, DNV as a knowledge based organisation had the chance to retool their training to focus on delivering effective performance at every changing moment. Their main goal is to grow dynamic learners with the performance support system. After having the chance to observe the participants, I decided to conduct semi structured in-depth interviews. The reason for this being that I would receive a deeper and better understanding for the 70:20:10 model, participant’s views on courses, and the effect they have on learning in the workplace. Choosing a standardised interview method would prohibit me from being flexible with questions and being able to adjust the language. Another reason for not choosing a standardised interview is that one does not have the opportunity to add questions whilst interviewing. In summarising, using semi-standardised interviews allows for more freedom for both the person conducting the interview and for the person being interviewed.

3.4 Case selection- interview selection

Within qualitative research choosing informants is an important step for conducting the right type of interviews. Who is going to be interviewed, how many, and what criteria are chosen? These are questions that have to be answered in order to conduct a valid and structured interview. Initially, an interview sample of informants should not be too big, reason being that this can prohibit the feasibility of conducting the interviews and analysing is a time consuming process (Dalen 2011). It is also of importance that the interview material that is the result of interviewing the sample has to be of good quality, which in turn will be of substantially good quality to be able to analyse and draw conclusions (Ibid). By interviewing two samples and comparing them, this will strengthen the validity.

Choosing the informants for the interviews was arranged in cooperation with Det Norske Veritas. After each course, DNV sends out a survey, where the employees fill out and evaluate the course they have attended. This type of survey is called a Quest Back, and is a standardised web program used in DNV. This survey is aimed to receive the participant’s conclusions and opinions on the course that was held. My contact at DNV gave me a list of employees who had attended the two different courses based on the attendance list. From this list, I was given the chance to pick out informants based on the information and the nature of the courses. I also had to choose participants who had attended the courses in Oslo, although

I was able to interview one participant through videoconference. Videoconference interview was used due to the location of the participant's and my own location. The reason I chose to select participants that had attended the course at DNV headquarters was because of gaining access. Hopefully these participants would be representative for the other courses. It was however given that not all the employees who had attended the courses were accessible for interviews. One of the reasons for this is was due to the fact that the employees travel for work and have a busy schedule. Another reason would be that the employees, who had attended the course three years ago, were no longer living in the country, and some had also left their job at DNV. The case, and the interview selection, can therefore be described as both strategic and out of opportunity. For each of the cases chosen I was given contact information for the employees by the competence and learning department.

A standardised mail was sent out to employees who had attended the courses, through my contact at Det Norske Veritas. The information in the letter included the theme for the research, how the interviews would be conducted, and the participant's rights in accordance with Norwegian Social Science Data Services. The survey was conducted anonymously, which means that the name of the informants will not be released in this thesis. The only person who knows the identity of my informants is my contact person at Det Norske Veritas. Reason being that this person helped me find participants for the interviews. I also made sure that the interview guide and consent form was sent out ahead of time of the interview. This information and the letter with informed consent is important in relation to being aware of their rights, and the right to withdraw from the interview at any time of the process (Kvale and Brinkmann 2010). The reason for not sending out the letter myself was if the request comes through a known colleague in the organisation, the employees are more likely to give it proper consideration.

Although it is said that using an insider's help with recruitments, they might be overtly biased, I do not feel that there was any pressure on the others informants to take part in the interviews. King and Horrocks (2010) refer to this with a person who can identify organisational members who meet the sampling criteria of the study, can pass on project information and letters requesting participation to them, and then to forward this information to the researcher (King and Horrocks 2010). This type of approach for interview selection has the elements of "snowball-samples".

The informants I interviewed had previously attended two different courses at DNV. One of the courses was practical, whilst the other was more theoretical. The informants I chose had attended the course from one to three years ago. One of the reasons for choosing this time frame was to secure better validity of the samples. The number of informants I managed to collect from the practical course was eight, whilst in the more theoretical group there were four informants. This shows that the total of all the informants from the two samples would be twelve. Since some of the informants have busy schedules, I was prepared that some of the interviews would have to be conducted via mail and phone. In connection to this thesis, only one interview was conducted via mail. The reason being that this informant was not at the organisation at the present time. Therefore, conducting the interview through mail gave me the chance to conduct an interview, and strengthen the validity of the data. When conducting the interview via mail, the same information letter was sent out, as well as the same interview guide. The informant answered the questions with enough response for me to be able to analyse the data.

3.5 Execution of the interviews

For this thesis, semi-standardised interviews were conducted in order to collect primary data as a source. Reasons for choosing a semi-standardized interview as the primary data was because, first of all, choosing a standardized interview gives no deviation from the question order. This would furthermore make it more difficult to adjust the language and the order of the questions. Another problem by choosing a standardized interview is that there is no leeway since wording of each question has to be asked exactly as it has been written. One major downside to also choosing standardized interview as a method is that no additional questions may be added. This can be a problem in this case since the primary reason for the interview is to be able to add and probe to ask questions and make clarifications. So in summation, for this thesis, a semi-standardized interview would give a better platform than a standardised interview, when conducting these cases. It would not have been advisable to use an un-standardised interview. Reason being that this type of interview depends on the interviewer being able to both adapt, develop and generate questions, as well as operating from a different set of assumptions (Berg 2009). As a person who is an inexperienced interviewer, this form for approach might result in a lack of relevant data for the cases. This could furthermore harm the validity of data for the cases. So, therefore, semi-standardized

interviews were chosen for this thesis, based on the foundation that semi-standardized interviews involve the implementation of a number of predetermined questions and special topics (Ibid).

Based on what has been mentioned above, and what Berg (2009) refers to as predetermined questions and special topics, the questions for the interviews were asked partly in a systematic and consistent order. An interview guide was constructed with a base of questions, and each of the interviewees were given the freedom to digress beyond the answers to the prepared questions.

3.6 Transcribing

While I was conducting the interviews I chose to take advantage of using a tape recorder, since it then would be possible to transcribe the interviews after completion. “ In most qualitative research tradition it is strongly preferable, if not essential, to have a full record of each interview” (King and Horrocks 2010:44). When it comes to factors on how to transcribe data most effectively, one main point to remember is that transcribing is the first step in the analysis itself. This is strengthened by having the chance to become closely familiar with the data (Ibid).

There are two main issues of transcribing; the first is whether to transcribe every single word of the interview, and to what level of detail one needs to transcribe. Since I am writing an organisational case study, recording everything verbatim is not fully necessary. Even though verbatim transcribing is preferred, it is time consuming. I chose to transcribe the interviews in as little detail as possible. Since I am not focused on how the language is used, there is no need for a detailed level of transcribing (King and Horrocks 2010). Therefore, I am more concerned about being able to identify broad patterns of common themes across the number of participants, example, and organisational case study (Ibid). Although the transcribing of the interview went well, there were three main threats to the quality of transcription, which can cause inaccurate transcripts that can have a deleterious impact on the process of data analysis. The three main threats to the quality of transcription, which one needs to minimise, are; the recording quality, missing context, and tidying up transcribed talk. It is important when transcribing to be aware of two immediate contexts of what is being said. The first

point is the non-verbal communication and paralinguistic aspects, voice volume and pitch. The second is the use of non-linguistic utterances, which are for example laughter and pauses. It is also important to be able to understand the wider context of the interview itself (Ibid). When transcribing, the recording quality was very good, so this threat did not have an impact. The threat regarding missing context did not show due to the fact that during the interview notes were written in order not to miss this. Lastly, since I was not transcribing everything verbatim, tidying up transcribed talk would be conducted if the informant's quotes were not too clear.

When the interview is transcribed one has to be aware if the comment was made with a falling intonation and emphasis on the different words. King and Horrocks (2010) argue that there will always be some occasions where a failure to record immediate contextual factors will undermine transcript quality (Ibid). This information can be valuable when analysing information later in the process.

I also decided to tidy up some of the transcribed talk. One of the reasons for this was that the interviews were conducted in both English and Norwegian. Some of the raw data had to be "tidied up", in certain areas because of the oral presentation. By tidying this up into written form it was easier not to lose the intention, but rather see the entirety of the informant's actual opinions from the interviews. Another reason for doing this was that English was not the informant's mother tongue. And since it was not possible to expect their English to be perfect, there might be some weaknesses because of this in being true to what they said. By "tidying up" the interviews it was possible in some areas to make it correct according to the English language.

Kvale and Brinkmann (2009) say that with transcribing interviews also comes reliability, validity and ethics. With reliability it is important in the transcribing phase to be sure of what has been said. Kvale and Brinkmann (2009) mention that even the same exact written words in a transcript can convey into two different meanings. There is no true correct way of a valid transcription. The aim is therefore to try and be objective when transcribing. Ethics of transcribing has to do with protecting the informant's confidentiality (Ibid). It is also important for the informants not to be surprised when reading their own quotes in the thesis. Kvale and Brinkmann (2009) mention that the oral language transcribed verbatim may seem incoherent and as confused speech. This can even indicate that the informant's language is of

a lower level of intellectual function (Ibid). In transcribing I have therefore “tidied up” the language for the analysis, by making it a more fluent, written style. An example of this would be taking a quote and looking at the whole picture of what the informant is trying to say.

3.7 Data analysis

There are five stages for the data analysing of conducting interviews as research method. The first step starts with a test to gain the understanding as a whole. Afterwards, one looks for the meaning of different elements or the various themes, which then describes and is interpreted. In the fifth and last step of the analysis, one conducts a theoretical interpretation of the material (Dalen 2011).

For this research thesis all interviews were recorded and transcribed. After transcribing it was time to analyse the material I had collected. This was intensive work since most of the interviews lasted between 30-45 minutes. During the transcribing and analysis I noticed that some of the data was useful while some of it was not useful at all. The first step in the analysis was to look at the principles of thematic analysis (Kvale and Brinkmann 2009). Here I sifted through all the written material that was transcribed and connected it to my thesis question. When sifting through the material I noticed patterns in the data that revealed something of interest regarding the research topic at hand.

One of the advantages of analysing qualitative data is that it gives the thesis an interpretive approach. This form for orientation gives the researcher the ability to treat social action and human activity as text. The interpretive approach for analysing the data collected is influenced by the hermeneutics; which refers to the study of the interpretation of texts (Kvale et al., 2009). Hermeneutics purpose is to obtain a valid and common understanding of the meaning of a text (Ibid). This comes to light when the researcher is able to learn how to analyse the interviews conducted, and set them to text. Since hermeneutics is not a step-by-step method of analysing qualitative data, they have a set of principles that been used in text interpretation.

For this study, data has been analysed by primarily focusing on its meaning. One of the main guidelines provided by Kvale and Brinkmann (2009), is to code the meaning by attaching a

variety of keywords to a segment for later identification of a statement. Results of the various statements concerning organisational learning, formal learning, and informal learning have been labelled according to the correspondence. This approach has also facilitated easier grouping of smaller statements, which have been made by various informants, in the later phase of the analysis.

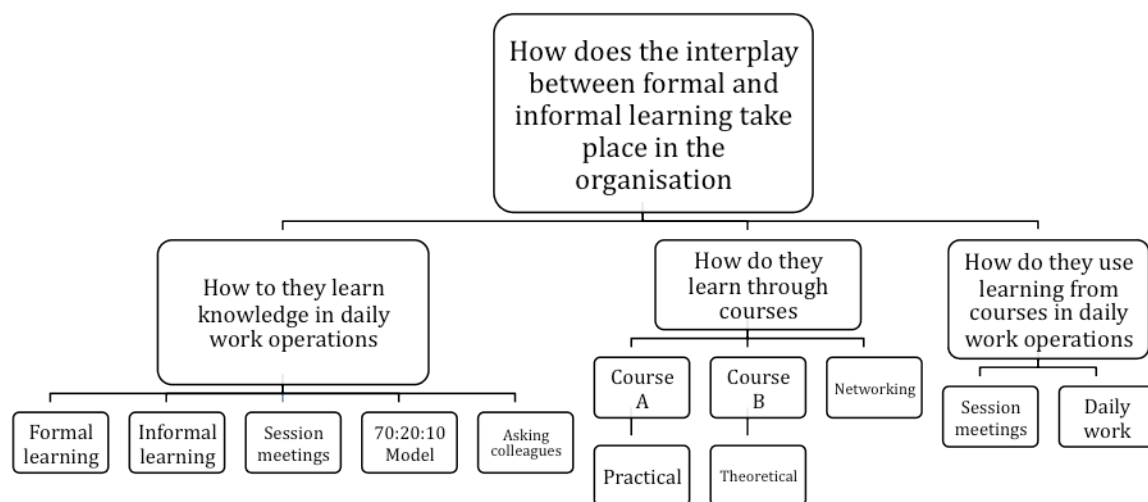


Figure 6. Steps performed during the analysis

Figure 6 shows how the research questions were applied in order to analyse the collected empirical data. All of the empirical findings from the case have been categorised according to the subordinate research questions. For each of the subordinate questions, its corresponding dimensions were mapped on the collected data. This approach enabled an easy comparison of the tools to achieve learning in the organisation.

The analysis performed for each of the cycles provided relevant outcomes that have been compared and discussed. Finally, appropriate conclusions have been elaborated based on the interpretations of the outcomes. The conclusions will be further detailed in Chapter 7.

3.8 Validity and reliability

According to King and Horrocks (2010), in qualitative research there are criteria for assessing the quality of the analysis (King and Horrocks 2010). Reliability is concerned regarding how accurate each of the variables is measured, while validity is concerned with determining whether a certain form of measurement measures what the variable claims. An important criteria for reliability is if the results are reproducible. In qualitative research, this can be difficult since interview has been used a method. Collecting data through a semi-structured interview can lead to the interviewees being inadvertently influenced with leading questions and answers. I have tried not to be leading when conducting the interviews. Moreover, reliability is concerned with what the informants have said is correct. Reliability is dependent on the threats, which impact my research in the least possible way. I have tried to take the necessary precautions to avoid threats affecting my data. Some argue that qualitative research should and could use the same criteria as quantitative research (Ibid). If one agrees with this, weight is put on validity and reliability. For others, they argue that when it comes to qualitative research there should be a separate set of criteria than those in quantitative. Consequently, there is no meaning in being concerned with the truth or the falsity of an observation with concern of validity.

These criteria will be the methodological framework in which validity in this thesis will be ensured. King and Horrocks (2010) refer to this as the qualitative research, which is working within a realist approach. This means that the thesis will be addressing the correspondence between the real world and the researcher's interpretation of it. When using alternative quality criteria, one needs to understand the influential attempts, which have been made to devise alternative criteria. The set of alternative criteria have been the work of Lincoln and Guba (1985). They felt that the set of alternative criteria reflect the underlying assumptions that are involved in qualitative research.

Cook & Campbell (1979) developed a system, which was to be used mainly for causal studies. This framework has been used in what is referred to as quantitative studies. The system, which was developed by Cook and Campbell (1979), was to ensure what is called validity of the study (as cited in Lund et al., 2002). When looking at validity and reliability, the two cannot be used in the same way in quantitative research as in qualitative research. In qualitative research, validity is usually argued to ensure high validity. Reliability on the other hand is more complex. The reason being that even realist qualitative researchers acknowledge that the researcher's subjectivity shapes the research process (King & Horrocks 2010).

However, Lincoln & Guba (1985) suggest four alternative criteria as direct alternatives to the main criteria used in quantitative research:

Credibility (in place of internal validity)

Transferability (in place of external validity)

Dependability (in place of reliability)

Confirmability (in place of neutrality; since qualitative research does not pretend to objectify)

Credibility criteria establish if the results of the qualitative research are credible and believable, seen from the participant's perspective. From this perspective the main purpose of the qualitative research is to either understand or describe the phenomena of which is interesting from the participant. Another important note is that only the participant of the research can legitimise the credibility of the results shown. Since credibility parallels internal validity, and how believable the findings are, for thesis, the triangulation of sources of information has contributed in ensuring credibility. Berg (2007) points out that triangulation is when a researcher uses various lines of sight in the research. This enables the researcher to obtain a clearer picture of reality. In regard to this thesis, prior to the interviews documents and meetings with Det Norske Veritas have been used to develop a familiarity to the case. In addition, the informants range from consultants to senior managers. Here Bryman (2012), argues that this ensures a certain triangulation of data that strengthens the credibility of a study.

Transferability refers to the degree in which the results from the qualitative study can be generalised to another context. By seeing this in a qualitative perspective, one can see that transferability is the responsibility of the one who is conducting the generalisation. One factor that can enhance transferability is by conducting a thorough job of the researcher's context. Another factor regarding transferability, is that it is parallel to external validity in the sense of, do the findings apply in other contexts? Since the findings are subject to a study of a small qualitative group of individuals, the findings tend to be oriented towards the contextual and significant aspects of the social world being studied (Bryman 2012). Based on arguments by Lincoln and Guba (1985), suggesting that it is the investigator's responsibility to ensure sufficient contextual information about the fieldwork sites is provided. This is to ensure the reader makes such transfers. In regard to this argument, this thesis pursues to provide enough

contextual information about the case, ensuring that readers make their own transferability inferences. In this thesis, the specific focus lies on the interplay between formal and informal learning in the organisation.

Dependability refers to the need of the researcher to account for the changing context that occurs throughout the research. The researcher is then responsible for describing the changes that may occur in both the setting and how they may affect the researcher's study. In quantitative studies reliability is referred to the assumptions of repeatability. It concerns whether it is possible to observe the same thing twice. Since we are not actually measuring the same thing twice, it is not possible. We are measuring two different things. To be able to estimate reliability in qualitative research, we conduct various hypothetical notions, something also known as true score theory and try to go around this fact. In regard to this thesis, ensuring that complete records are kept in all the phases of the research process such as; selection of the research participants, notes, interview transcripts and data analysis, in an accessible manner. This strengthens the dependability by reporting the process in detail and enabling future researchers to repeat the work. In this thesis, this will enable the reader of the study to have a thorough understanding of the methods used and the effectiveness of them (Bryman 2012).

Confirmability in qualitative research refers to the degree in which the results can be corroborated or confirmed by others. If one wants to enhance the confirmability one strategy may be to check and recheck the data throughout the study. Certain steps should be taken to ensure the findings reflect the informant's ideas and experiences. Confirmability is not easy to achieve, however, some precautions such as not allowing personal values to sway the conduct of the research, and the findings deriving from it (Bryman 2012). As it has been mentioned earlier, data for this thesis has been gathered primarily through interviewing informants from Det Norske Veritas, and also by reviewing relevant documents. This data triangulation is an attempt in securing a certain degree of confirmability.

3.9 Ethical reflections

As a researcher, one has an ethical obligation to the colleagues, the study population, and to the larger society (Berg 2009). Ethical issues can arise at any time and in a variety of stages

throughout the social research. Ethical issues cannot be ignored since they are in relation to the piece of research, and of the disciplines that are involved.

In this part of the paper I will be highlighting some of the main ethical aspects of the thesis. This will include informed consent, the right to withdraw, confidentiality and no deception. These professional codes have been used and taken into consideration for this thesis. The initial guidance has been to protect the participants from harm, aiming to preserve their well-being and dignity (King & Horrocks 2010). As a researcher, I am required to identify and comprehensively respond to a variety of ethical issues. These ethical codes of practice help highlight the importance of informed consent prior to taking part in the research (Ibid). By giving the participants knowing consent, the participants are fully aware of what they are consenting to when they agree to take part in the qualitative interview.

The questions that were asked for the research do not probe into the privacy of the participant, there was no lack of informed consent, there was no deception involved, the participants had the right to withdraw at any time, all of which can be seen as critical to avoid because of the ethical foundation of this research project.

The issue of harm to participants is further addressed in the ethical codes by advocating care and providing privacy of the confidentiality of the records. This also means that when being published, care needs to be provided to ensure that the individuals are not identified or identifiable. Bryman (2012) argues that in quantitative research it is easier to make records anonymous and present findings that do not allow the individual to be identified. In qualitative research however, the participant's care has to be taken into consideration. Reason for this being the possibility of identification of the person (Bryman 2012). When talking about the issues of harm to participants one also has to see this in connection with informed consent forms. The advantages of this form are that they give the participants full information about the nature of the research, and the different implications of their participation (Ibid). Another advantage of the consent form is that the researcher has a signed record if any issues should arise. Linked to the notion of informed consent is the invasion of privacy and the issues of privacy are linked to the issue of confidentiality arising during the research process.

3.10 Summary

In this chapter, a description of how the study was conducted has been presented. In accordance to the research question, and literature on methodology, a qualitative case study was chosen for this thesis. Det Norske Veritas represents the case chosen, and two different courses were selected to see the interplay between formal and informal learning in the organisation. The data sources selected were interview as the primary source, and observation to support to some extent. The informants selected were based on years since attending the courses, experience in the organisation and gender. In addition, a letter was sent out to the informants regarding what the thesis was about. The data has been analysed in connection to theory, and conducting a cross analysis of the two courses. The study is based on a deductive framework, as well as an exploratory approach. This allows the researcher flexibility during the interviews. To increase the researcher's credibility, openness is pursued, as well as ethical guidelines which have been followed. The findings are presented according to each of the subordinate research questions and crosswise of the two courses.

The next chapter will present the empirical findings. First, the findings from each of the subordinate research questions will be presented. Chapter 4 will have subordinate chapters that will look into the courses and the subordinate research questions. Here, the purpose is to provide an analysis of the courses to show the characteristics of each of the courses. Chapter 5 will present a discussion of the analysis with the support of literature.

4 Empirical findings

4.1 Presentation and analysis of collected data

In this chapter I will present the empirical findings based upon the data that has been collected from the two courses. The data has been collected from twelve different informants who have attended two different courses at Det Norske Veritas. Furthermore, I have chosen to divide my analysis into the three subordinate research questions mentioned earlier. In each of the main categories I have made some subcategories, which will help complement the main categories. Finally, the empirical findings are summarised.

Quotations will be used to exemplify and concretise what the different informants have responded in the different categories. When using direct quotations from the informants, informant codes will be used to make them anonymous. Quotations that are partial answers are defined with [...] making it clear that something has been taken out from the quotation. When referencing the quotes CA stand for course A: Train the Trainer, and CB stands for course B: SOLAS. “CA principle engineer” and “CB surveyor” are examples of how the informants are identified in the quotations.

4.1.1 Information about the informants

The group of informants selected was based on participants who attended two different courses between one and three years ago. The informants from Case A include the following job categories; an engineer, a senior support staff employee, a consultant, a service manager, a senior surveyor and a principle engineer. The informants from Case B include; a surveyor, a project manager approval employee, a plan approval engineer and a management systems employee. The employees that were selected were both Norwegian and Korean. Det Norske Veritas is an organisation with over 10 000 employees in around 100 countries.

Course	Type of course	Work title	Age	Sex	Education	Years worked in DNV
A: Train the Trainer	Practical	Engineer	29 years old	Female	Civil engineer in maritime technique	3 ½ years
A: Train the Trainer	Practical	Senior Support Staff	46 years old	Male	Engineering studies and currently studying for MBA	1 year
A: Train the Trainer	Practical	Consultant, line manager	53 years old	Male	Law and engineering studies	12 years
A: Train the Trainer	Practical	Service manager		Male	Networking	5 years
A: Train the Trainer	Practical	Software support engineer	31 years old	Female	Bachelor in IT and French	12 years part time 4 years full time
A: Train the Trainer	Practical	Senior surveyor and senior consultant	36 years old	Male	Bachelor in naval architecture	5 years
A: Train the Trainer	Practical	Principle engineer	55 years old	Male	Bachelor in naval architecture and engineering college degree	4 years
A: Train the Trainer	Practical	Consultant	40 years old	Female	Organisational sociology	7 years
B: SOLAS	Theoretical	Surveyor	28 years old	Female	Bachelor in shipping and master in maritime law	2009 part time 2011 full time
B: SOLAS	Theoretical	Project manager approval	50 years old	Female	Master in naval architecture	23 years
B: SOLAS	Theoretical	Plan approval engineer	Ca 40 years old	Male	Marine engineer, civil engineer	16 years
B: SOLAS	Theoretical	Management systems	53 years old	Male	History	12 years

Table 1. An overview of the courses and information about the informants

4.2 Knowledge in daily work operations

Daily job execution will often consist of repeating various work tasks and working in teams. This was pointed out during the interview. One employee pointed out that, being able to talk to colleagues and working in teams, lead to a deeper and better understanding of work. When asked if they learn through formal or informal learning, one informant had the following to say:

“ [...] I don't have a day where I don't talk to or interact with others. In my working environment, I have some form for interaction with at least half of them everyday. I learn a lot from that. In the day to day interaction with colleagues, I learn more from the informal interaction because it is fresher [...]” (CA Consultant).

In connection to the answer she gave, I asked her if courses were an important part of learning in the organisation. She said:

“ Yes, definitely, because formal learning is important here. [...] I also think that it is important that when one is attending the course, that one removes the tunnel vision. You get to meet other people who are working with the same thing you are, on the other hand with another perspective. If one does not have the classroom setting, then you would never have as many possibilities to learn the material and from each other”.

4.2.1 Formal learning

The employees from the Det Norske Veritas expressed their views that formal learning is something the organisation cannot function without. They also said that since Det Norske Veritas is a knowledge based organisation, it does not matter how experienced or how old you are, it is still good practice to have formal learning in the organisation. Findings also showed that the employees felt they increased their competence by having formal learning in the organisation. For the employees, attending courses both internally and externally provided by DNV was seen as the main form for formal learning. This was said to be where the formal learning occurs at DNV.

An informant who works as an IT service manager mentioned that formal learning in the organisation is important because then he could gain a higher knowledge. He expressed that the course Train the Trainer, helped him become a better presenter and prepare the content in the course material he was to present. Moreover, he said that formal learning in the

organisation helped increase his personal competence. It was also said by the informant that when one has formal learning, this results in a better-structured daily work situation.

It was worth noting that the employees saw formal learning as something, which is important in the organisation. Important arguments in favour for formal learning include the belief that without formal learning the organisation and the employees will not be able to grow and develop. It was argued that formal learning was necessary due to the fact that Det Norske Veritas is an organisation delivering services. Training is therefore an important tool in being able to deliver competence to the employees. One of the informants mentioned that it was important for him to have formal learning because part of his role is to be qualified in order to deliver training programs to other employees in the organisation.

For one informant, having the chance to attend the formal courses at DNV was important in relation to his current job. He mentioned that he likes to attend courses if the topic is interesting, and if it is about a subject that he had little or no prior knowledge about. He says:

“[...] And that’s why I have attended the technical courses that my section gives, or other people in my section give. They are very interesting and I need them in my work. I need to know these topics in my work. I think a lot of people could benefit from attending these courses” (CA consultant).

Course A provided the employees with training that they could *not* get through workplace training. It was found that Course A provided the employees with an opportunity to practise with a trainer, receive feedback and deliver skills without the pressure of production. Another interesting finding was that, the course, while it provided training on how to produce and perform a course, also provided the employees with real-life situations on how and why to use them. The employees acquired new knowledge through the formal learning, and could set this knowledge into context and develop it from there.

During the interview, the 70:20:10 Model was mentioned and the employees felt that the 10% of the model was seen in connection to formal learning, which they receive in the organisation. One informant, who works in the competence and learning department, mentioned this in connection to new learning:

“ I think that if it is special competence within a new area for example, facts and that sort of thing, then it can be useful to start in a classroom with another group that is there to get to know a new network and on new areas of knowledge”.

The employees were also questioned if they had any reason for not using what was learned at the formal courses in DNV. One surveyor had the following to say in regard to this:

“ All learning is useful, and you never know when you will have use for it. And there is no point in thinking that there is no point in not learning because someone else knows it”.

4.2.2 Informal learning

An interesting finding was that the employees all said that they learn most from the informal learning that occurs on the job. On-the-job learning occurs all the time in the organisation. This raises an important question whether informal learning is enough for the organisation to develop and grow. It was further uncovered that the employees mentioned that informal learning enforced learning by working in teams. One of the reasons for this was that it enforces the different opinions one learns from others. Another finding showed that the employees found it easier to ask a colleague for advice in the daily work operations. It is also worth mentioning that employees said that since they are experiencing ongoing informal learning all the time they interact with each other on projects, they benefit more from that type of learning. It represents a more “fresh” form for learning since it is happening all the time. The employees also mentioned that when working on projects in teams, informal learning would occur naturally. As one informant says:

“ [...] When there are larger projects and we sit together, and there is something that you have noticed, you have an “aha” moment, and you pick up things by coincidence. And when we talk together in the team and group, everyone knows a little thing about the project, however, you learn more informally by coincidence really [...]” (CA consultant, competence and learning).

Findings in this research also show that employees prefer informal learning because of the interaction between colleagues in the work place. As an informant who works as a consultant says:

“ [...] We are experiencing informal learning all the time because we are a hands on interactive support unit. I work everyday interacting with the colleagues I have next to me. I don't think I have a day where I don't talk or interact with others. In the work environment, at least half of them I have an interaction with every day. I learn a lot from that. In the day to day interaction with colleagues, I learn more from informal interaction because it is fresher”.

Identifying and developing new learning solutions was closely related to the term teams. Several of the informants mentioned that the opportunity to have a variety of learning methods such as team learning and session meetings, made it easier for them to finish projects and acquire new knowledge.

According to the employees, informal learning through practical exercises enabled the employees to have time to reflect and go back to a problem in daily work operations. In addition, it was said that people learn best through their daily activities and through projects. However, it is worth mentioning that this all depends on the area where one is working. The employees' comments concerning individual learning in the workplace were related to practical on-the-job learning. Informants expressed that much of the learning takes place in contexts rather than formal training. As one informant stated:

“[...] I don't attend courses that often. So the way I learn best is when I talk to someone about something. Face to face. It is easier for me to remember things visually than looking at a book” (CA Service manager).

The employees were also asked if they had any special ways of gaining knowledge through daily work operations. One informant had the following to say.

“I have a preference on working and learning in teams because it can definitely enforce the different opinions and one can learn from others” (CA Senior support staff).

During the interviews it was uncovered that the employees mentioned that there were some negative sides with on-the-job learning. It was said that not all projects could be completed with just informal learning. The employees emphasised that in order to deliver a good project, formal learning has to be present.

The informants were also asked if they learned more from formal than informal or if they could explain what they learn most from; informal or formal learning. This is what one informant had to say:

“ One does learn a lot the informal way through what happens when solving problems and talking to colleagues. However, when it is not formalised there is no one that has any duty to delegate the different tasks. Therefore, it kind of disappears and is down focused. In a course setting, it is expected that the people in the room, learn something they did not know from before, and are expected to have gained new knowledge by the end of the course. The downside with informal learning is that one can end up learning the same thing over and over again.” (CB Surveyor).

Another good example of learning in the organisation is working in groups with people who have different kinds of expertise. This helps the employees to understand and help one to understand the nature of that expertise, and make better use of it. If the leaders and supervisors engage in special organised learning it will require them to have the proper and appropriate skills and the time to use this properly. When working on a problem the informants mentioned that it was important for them to work in groups so that they have the chance to have a group discussion in order to understand what the problem is. Also, it was found that the employees have an attached importance in being able to contribute to problem solving.

During the interview the informants were asked if they learn by attending courses, or through colleagues at work. An informant said:

“ I would actually say daily work. I think I would learn more from my colleagues. One of the reasons for this is because the courses are a base from which you move further. The 70:20:10 model says that 10% is the formal learning, sometimes even more, though I guess that can be individual. And I would say that my current line manager has been very involved in my daily work. If he were to involve himself in more managerial tasks or as project leader, then he would be less involved in the interaction between the co-workers and the courses”.

4.2.3 Combining formal and informal learning

Several interviewees suggested that in-house training in the organisation is one of the significant factors contributing to knowledge creation. Indeed, some interviewees suggested that continuous learning is necessary for all the employees and for the development of the organisation. One of the reasons for this is that employees always need to be educated, new employees are always joining the organisation, and new knowledge is being developed. Another interesting finding in the interviews was that participants who attended the courses sought to combine formal and informal learning in their everyday work, through putting into practice what they have learnt in the formal setting. This reflects some of what was mentioned earlier. When asked about their daily work activities as learning from others and learning from courses, a combination was thought to be better for learning. As the informant says:

“ Yes, I think that is the optimal solution. Because there is something about courses, one gets taken out of daily work and time is set off to have a theme or area in focus. And one is put together with others that one does not naturally work with, and therefore gains new networks. And of course, I think it is important for DNV, that one receives some new contacts [...]” (CA consultant in competence and learning).

An employee who works as a senior support staff said that she learns both from formal and informal learning. She emphasised however that *“ I think that I am able to get much more practical advice from my colleagues, instead of the courses ”*. This however does not mean that formal learning is not as important. For her, informal learning was a better solution in learning.

Another informant said that she learns best when she can combine formal and informal learning. She said that:

“ [...] One acquires something through the course. And this is the way I like it to be. I can put this knowledge into context and develop it from there. And then things happen unconsciously in my daily work ” (CA Consultant in learning and competence).

4.2.4 Networking

There was substantial evidence across the interviews that the presence of networks enable the employees to engage in informal learning. Employees who were interviewed felt that the term networking is very commonly used in the organisation. They referred to having both

internal and external networks. It was usually through attending courses that the employees created a network of people. Since Det Norske Veritas is a large organisation and has sufficiently diverse expertise, the networks can also be found in different departments. The employees said that with having a network, it was easier for them to be less formal when asking for advice regarding a project or other work related problems. The people who are a part of these networks often possess a certain competence or position that the other employees may find beneficial.

As several of the informants says;

“Definitely to understand the knowledge or skills about the subject matter. That is the most important. Also, since we are a large organisation, and know a lot of people, we have to make use of the personal network. [...]” (CA Senior support staff).

It was mentioned by an informant that since she has been working in the organisation for several years, this has contributed to her developing networks. As she describes it:

“ [...] I am a little lucky in that way because I have worked a lot of years in different departments in DNV. So I know quite well how the daily routines work in the various departments. And I think that in my group there are not that many who have created networks, since they have only worked here a short period of time. For them, it is not so easy to know the daily problems one faces in daily work operations. This means I have a broad contact network”.

Networks in the organisation can also be seen in connection to seeking expertise in the different departments. As one informant says:

“ I usually think whom I can turn to, to find out more about this. And then go directly to them and talk to them. Or ask someone who knows someone who has competence within this and contact them” (CA Consultant in learning and competence department).

Another informant who works as an engineer also made similar comments. When working on projects and how to resolve problems she said that:

“ Mostly through teamwork. One sits alone and does the job, however, you consult with the others who have done similar jobs. This is networking”.

One informant who had attended the SOLAS course mentioned that he found it useful to attend courses because, in addition to learning from the courses, you are able to meet people and expand your network. He said that it was through these courses that he had time to meet people. Being able to discuss work, and then contacting colleagues at a later date when working on a project where they may have more expertise was beneficial.

4.2.5 Meetings as a way of learning

Learning through interaction with colleagues, or informal learning as it is known as the most common way of describing learning at work in the organisation. It was discovered that employees ask their colleagues for both advice and have discussions. The interaction was also explained by discussing problems that they face in daily work operations. This ended in learning from experience.

Section meetings are therefore an important part of learning. Meetings can be seen as both formal and informal learning.

“ [...] We have a weekly section meeting, and every other week we have a technical presentation of some topic that we should present, and of course all in my section are motivated and encouraged to give a presentation, also externally. If we have a topic that can interest others, then we are sent to other sections and even sections out of the country to attend meetings and to present issues that we think they can benefit from [...]” (CA Consultant).

It is also important that the employees have the chance to exchange information with colleagues. Another finding shows that by using courses or informal training it can strengthen both professional and social learning. This forms social interaction, something the employees in Det Norske Veritas say is very important. The employees emphasised that when they were talking with colleagues it gave the opportunity to connect learning to the functions and activities of their work. As one informant says;

“ It is mostly through discussions where we sit in a group and come to a solution. It is a bit more informal however, still formalised in that there should be at least four eyes on the problem, answer or report before it goes out. So there really is no process

on how things should be done in that context, more an informal dialog [...]” (CB Surveyor).

An interesting finding shows that new knowledge is created when a group of employees who have different educational backgrounds, talk and discuss problems connected with current projects. Knowledge that was created as a result of attending the course can be shared in the meeting with colleagues, that the informants mentioned. When this knowledge has been shared among the group that have attended the meeting; a result will be that the whole group now has this knowledge. One can see here that the knowledge would most likely spread even more and throughout the organisation. As a result of this, learning that has occurred is beneficial for the organisation and helps the organisation grow and develop.

“ [...] We are quite team driven. When we give our support we are supposed to interact with at least one colleague to have our answers checked by this one person, or sometimes even the line manager. Everyone in the section has given areas of expertise. Of course there is no one person who can know everything. So even if I answer a question which is a bit outside my area of expertise, though I know the answer, then I have it checked by one who is an expert in the field [...]” (CA Consultant).

A majority of the informants in course A have weekly session meetings to discuss and learn. The employees all expressed the view that being updated is important. Learning from direct experience is therefore important in a knowledge-based company. One employee told how it was important for the new employees to share their expertise with the employees who have been there over 20 years. It was said the new generation brings new and modern knowledge, which can help the older generation who have more traditional expertise. The older generation also helps the newer employees by providing useful insight into the learning organisation. This would then have a positive effect on the organisation and the employees. In Det Norske Veritas this is being taken into consideration because of what was mentioned earlier about the “senior” “junior” relationship.

4.3 Learning through courses

The employees who attended course A were generally much more satisfied with the course compared with those who attended course B. There were several factors as to why Course A received more positive feedback than Course B. Course A was considered to be far more practical than Course B, which the employees liked. Having too much theory in a course could be seen as negative since they were not really able to set the theory into practical context. Course B, is about rules for the safety of ships and having concrete examples, which they can relate to, were considered to be important factors. Moreover, the course was perceived to have been too wide and with only a focus on a small part of the course material.

The process of attending courses at Det Norske Veritas has been viewed as positive and beneficial for all the employees who were interviewed. One of the main reasons for attending courses is to acquire new knowledge. This is both beneficial for the employees and for the organisation itself. Informants in Course A said that they learned more after having attended the course. They learned how to present, slides, flipovers and how to give a presentation in front of a group of people. Since this was a more practical course, the employees said that there was a good mix of theory and practical activities. This also helped them expand their horizons. Furthermore, the employees would have liked to have the chance to attend a refresher course, or an advanced course if given the possibility. However, it was implied that if they were to attend the course again, there would have to be an update in the course material.

When asking the informants what they think of when they hear the word “course” this is what a senior support staff had to say:

“ Course! For me it is competence, whether it is formal or informal. It is in the formal and informal courses where the training is. Sharing is the ultimate aim in DNV when attending the course to increase our competence. Therefore, I think competence is my word for describing courses ” (CA Senior support staff).

Why courses are important:

“ A good course is a good experience. In addition to the subject field, a good trainer or a good group dynamic and you get a lot of that, in addition to networking and meeting other people ” (CB Management systems).

One participant wondered whether the organisation had looked closely enough at the course description, and could see how differently the course was conducted. It was questioned if there was enough attention paid to providing the employees with learning solutions that could be more tailored, rather than a general mass of knowledge at the course. One informant mentioned the employees should have an inner motivation to be able to take advantage of the courses provided by DNV. He said:

“ That one wants to learn more because one is interested in the field one is working in. And that one wants to broaden it, so that one can do the job better and evolve. I think it is always fun to learn new things and develop. And since we are working with technology that is always evolving, and in more and more places there are fields that you need to know more about [...] ” (CA Senior support staff).

Employees who attended courses mentioned not only did they learn something, they also had the opportunity to get to know each other. This made it possible for the employees to talk to each other in new settings and benefit from the information, which they shared. There was especially good forms of learning activities in Course A which included the exchange of knowledge, problem-solving, and the participants said that they were included in a positive way during the course. One informant mentioned that the employees who attend courses are not the same age. He mentioned this was positive, because then he had the chance to learn from an employee who has a lot of experience working in the organisation.

Course A was a practical course and this encouraged the employees to put what they learned into their daily work operations. One informant who works as a senior staff support had the following to say:

“ [...] For me I used the direct application of the learning from DNV courses. It is very helpful for me and it is very necessary for me to do it ” (CA senior staff support employee).

It was also mentioned by the informants who had attended courses, that they would have liked to have the opportunity to attend courses that are not only related to their section or department.

“ [...] Like now in my current section, then I have to be in contact with several sections working with other things. And because one drawing contains information about several things it would be interesting to participate in courses relevant for

those sections, or to learn more about items not directly relevant for my job. In some cases if I give a comment to satisfy my requirements, they can be contradicting to the requirements from the other sections. So to be aware of things like that would be interesting [...]” (CB Plan approval engineer).

The employees at Det Norske Veritas rely greatly on working in teams and interacting with each other when they need advice to receive a better understanding of problems.

One of the informants, a software support engineer said that when attending courses, it is important to “learn as much as possible, or at least learn where to find new knowledge”. For this informant it was mandatory to attend the course because her work entailed training surveyors. In order for her to accomplish this, attending course A Train the Trainer was mandatory. She expected to learn different techniques such as posture, language and the use of slides in presentation during the course. The software support engineer mentioned that after the course, her expectations to the course had not changed.

4.3.1 Course A seen as practical

All of the informants who has attended Course A responded to the course being well designed and filled with important and structured course material. Furthermore, it was mentioned that scoring the course’s difficulty on a level from 1 to 10 where 1 was low and 10 being high, the informants rated the course as 5. It was said by the informants that the course gave them new knowledge and they were able to create networks with the course participants.

After having attended the course, a majority of informants mentioned that they have successfully been able to set what they learned at the course into daily work operations. For a couple of the informants this has not been successful since they have changed role in the organisation. However, they are glad to have knowledge of the material, and therefore are prepared if they have to hold courses for other employees or external customers. The participants also said that they learned more at work now after having attended the course. The informant below mentioned he received useful information regarding theory in the course:

“ I guess the main thing is that I learn something that I didn’t know from before. I mean, there is no intention of going to a course if the topic is already known. I also

attend the course to get a new perspective on learning, to learn something new, to learn something that I didn't know earlier. And to even use my formal knowledge in a new way [...]" (CA Consultant).

According to the informant it was important to learn how to make the presentations different and to be able to combine a variation of tools. The informant also mentioned that it was important to know how to talk when holding a course, and to have knowledge about what one is presenting. Moreover, the participants were taught how use power point slides, incorporate flipovers and the use of other props. The informant mentioned that this was one of the best courses he had ever attended at Det Norske Veritas, and that the course gave him exactly what he had expected and even more.

The informants who attended Course A Train the Trainer, said that they would have liked to attend the course again, given that there was an update on the course material. It was emphasised when attending courses it is important that the course material is up to date, and that there is concrete material to work with. As the informant says;

" Not only if there was an advanced course, also I think that there should be a refresher. Since it has been four years since I have attended, maybe there should be a refresher 2-3 years after your first attendance [...]" (CA Service manager).

One informant who was interviewed had participated in the course Train the Trainer two times. The first time she attended was five years ago, and expected there to be some form of update in the five years that had passed since first attending the course. After having attended the course a second time she saw that the program was the same. It was possible for her to recognise the material from the first round of attending. It was also mentioned by a senior surveyor and senior consultant that; " a course will need to be improved based on feedback". If he were to attend the course next week, he expected that the course material would have been updated and that there were some changes made in addition.

It was also mentioned that it is important to have the course material updated and developed. An employee who works as a consultant in the competence and learning department mentioned that because of the digital world we are in, it is important to utilise the new technology optimally. This needs to be seen in relation to learning. She mentioned that in the latest courses she has held: *" people sit with their iPads and other technology. How can we*

maybe take this further on the job?” It was also emphasised by this informant that an advanced course would be beneficial for DNV because we are now living in the IT environment, and as a trainer it is important to be able to utilise the best kind of impact material.

The participants were overall happy with the course material at the present course, and liked that they had to be filmed. According to one informant, this helped him see himself when giving a presentation. From this he was able to change the way he presented the material and minor things such as posture, how fast he talked and giving the participants the ability to ask questions.

4.3.2 Course B seen as theoretical

A number of informants who had attended Course B thought the course was well structured, and, there was more focus on theory than practice. In particular, it was mentioned that they would have liked there to be real life situations, which they could have connected the course material towards. Furthermore, it was mentioned that on the difficulty level from 1 to 10, Course B scored 5.

The employees did however say that Course B SOLAS is much larger than it was thought to be. It was mentioned that one of the challenges regarding the course was the content. The employees mentioned that there was quite a large amount of content to absorb in two days. Even though there was a large amount of content, one employee did mention that there were some active participants who asked questions. As the informant said:

“ [...] Fortunately there was a few of the participants that were quite active, so when we started with the fire safety part, there was quite a lot of questions, which is quite good in such a situation. This makes you more active and you listen more. The course started to die out towards the end. The participants were not that active after a while and I think that if they had more quizzes or group work or something in the end, it would have been more interesting” (CB Plan approval engineer).

One participant, who attended the course, said the reason for participating was because it was partly mandatory. Because of the informant's role in the organisation at the time, the course

seemed interesting and chose to take it early. As it is mentioned in the quote by the informant below:

“ [...] I chose to take it now because I do not work directly with the content of the course, however, it is something that I feel is a frame for all the international codes and, to get it formalised that I understand SOLAS and am able to refer to it... From my side it was voluntary, but I was recommended to attend” (CB Surveyor).

The same informant also mentioned that even though the course itself was good, the name SOLAS did not really fit into what was delivered at the course. She mentioned that:

“ It took a lot of time before we came to the core part, and when we did, they used so little time on it. And just jumped straight to the codes on fire and life saving. Not that much on SOLAS”.

She also mentioned that:

“ Maybe one should attend the SOLAS course every 10 years since there may have been some updates”.

The informant mentioned that, *“it gives me something”*, by attending the course. This can be seen in connection to the inner motivation and personal drive to learn something new. On the question regarding if the informants had learned more after attending the course, a surveyor had the following to say:

“ Maybe I have a better understanding what the different updates mean. Since we have intranet letters I can better place and understand what they mean than before”.

One of the informants who was interviewed was a part of the creation of the SOLAS course from the beginning. It was therefore a natural question to ask her what the idea behind the course was. She said that:

“ The idea was that we saw a need especially for our surveyors working outside of Høvik that they should know more about what is covered by the SOLAS. Because traditional class role has been looking at hull material and electrical, and then what SOLAS covers is what is called the statutory part, which is the certificate that we issue on behalf of a flag. And this was not traditionally for all the class concepts, so for instance, the Norwegian class vessels, they have covered a lot of what DNV are not authorised for the flag to do. So there was a need to train our surveyors to know

more about SOLAS. When I was working in the SOLAS department, we saw that there was a need for more education on that subject”.

After having been a part of the team creating the course, the informant also attended the SOLAS course. It was mentioned that the course was originally supposed to last two and a half days. As of today it is a two-day course. For her, attending the course was important since she was working a lot with passenger ships in DNV. It was also mentioned that the learning and competence department in DNV at the time, instructed them how to plan the course, and they should not base it all on classroom setting and one-way communication. The informant also mentioned that when the course was created, it was mandatory for employees to attend, and employees should have basic knowledge about ships. When the informant who was a part of creating the course, was asked about the course being practical or theoretical, she had the following to say:

“ We were aiming that this course should be practical. However, I noted while taking the course that it’s a bit theoretical. I think it is a bit more theoretical than we were aiming for. It should be more practical, and that is what I actually think it is today”.

Course B, like course A has not experienced any update since it started. The employees also mentioned that if they were to attend the course again, they expected there to have been some changes made. One of the main reasons for this is because employees did not feel the course description and what was being taught were the same.

4.4 Using the knowledge from course in daily work operations

The employees who have attended the courses have been able to apply what they have learned in their daily work at DNV. One interesting finding was that employees in Course A would have liked to have the chance to attend the course again. The main reason for this was to be able to brush up on their technique and apply some new knowledge. The employees in Course A expect there to have been some updates in the course material. It is possible to say that the employees from Course A and Course B together use the knowledge in the workplace. As the informants says;

“ When I attended Course A I had not held any courses yet, so I did not have the experience. However, after I held the course I was able to think back to the theory used and put it more into context. So it is always good to look over the course material [...]” (CA Engineer).

One informant who works as a software support engineer says that she uses the knowledge gained from attending courses on a daily basis. She also mentioned that she learns from her colleagues all the time, and that when she first worked as a line support with two other colleagues, she would gain new knowledge from them too.

Another informant had the following to say in connection to using knowledge gained at the courses:

“[...] Since planning and creating the content, and facilitating the training is my main job here, I think I am able to use the learning everyday. I try to condense the slides as much as possible, and make it concise with much less text and number of pages. Also, I try to think of ways to increase the interaction with the audience” (CA Senior support staff employee).

One informant who is a consultant in the competence and development department said that it was important not just to talk straight from the presentation board in regard to what was being taught at the course. When she was holding a course in elastomeric, a packaging course, which involves the understanding of materials, she was able to incorporate methods from Course A. She said:

“ We talked around it, brought examples so that the participants could touch and feel it. Using visual aids”.

The consultant in the competence and learning department also mentioned that she tries to think of new ways of transferring the knowledge.

“ I used a digital workbook which was supposed to be more of an active tool which could be used as a sort of encyclopaedia, and which you can add information to”.

The informant was asked if there were a lot of employees using these tools. She said that:

“ That is what I have been hoping we could. When we have a new way of learning that we can in retrospect monitor the usage and if it has the effect we were hoping for. This way we can see if it has any impact”.

4.5 Learning according to the 70:20:10 Model

An interesting finding regarding the 70:20:10 Model Det Norske Veritas uses, showed that 50% of the employees who were interviewed had never heard of the model. Furthermore, there was only a small percentage of employees who could describe the model and how it is incorporated in the organisation. The employees who know what the model stands for, said the organisation had chosen it in order to change the outcome of formal learning.

After having asked employees why they believe the organisation had chosen the model, a number of informants mentioned it was important with both formal and informal learning in order to learn. The employees said they learn mostly by working on projects and having more focus on this type of learning. It might be better to look away from the more traditional classroom setting. Another employee conveyed that even though this was a good idea, it is still necessary with formal learning. As the informants says:

“ [...] You still have the 10% which is necessary to be able to go forward towards 20% and 70% [...]” (CA consultant, competence and learning).

It was further argued by the employee that if employees have been working in the organisation over a longer period of time, then maybe the 10% is not that important. The employee should maybe focus more on the 20% and the 70% which one informant said was more important. However, this will depend on the role of the employee in the organisation. One employee also mentioned that it would depend on the seniority of the person within the organisation, and where in career development the person is.

When the employees who were interviewed were asked if they had any doubts about the model that Det Norske Veritas uses, one employee had the following to say:

“ [...] As long as there is communication and examples from the daily work operations in the organisation, then it has a meaning. However, if it is just introduced as a concept, then I don't think it has such a huge meaning. Because this is nothing new, before one would talk about 20% and 80%, and people wonder what is new with the model Det Norske Veritas uses exactly. It is therefore important when one introduces something new one has to clarify what this means. Otherwise one loses a

little momentum and the belief the organisation has on it. That can be a side effect. However, I am positive to the model” (CA consultant, competence and learning).

There was also evidence showing that the informants see 10% of the model in connection to formal learning such as courses. Here it was implied that they were able to transfer the 10% over to the 20 and 70 percent part of the model. The employees conveyed they accomplished this because the goals with both courses was to apply it to projects, and knowledge, and they accomplished this with the course development after attending the courses. Another informant mentioned that the organisation had most likely chosen the model to have more structure and competence for the employees and the organisation. He mentioned that it was important not to have too much focus on the courses, but rather to learn more from others and also from challenges that arise in daily work operations.

When being asked about the 70:20:10 model an employee had the following to say:

“I think the model itself is quite good for the company. Considering the factors that most of the people working here are not college graduates. The 70% you should learn by doing, and then the 20% helps you correct your mistakes because the first time you do something it is not going to be perfect. So that takes care of 90%, and the learning process is fun in a way. Then the 10% you need to structure your learning and Det Norske Veritas, being a knowledge based organisation, I think it is extremely important” (CA Senior surveyor and senior consultant).

The employees were also asked if they had any doubts about the model and if they thought it was a good model for the organisation. One informant who works in the competence and learning department said:

“As long as there is communication and examples from the daily work life from people in the organisation, then it has meaning. However, if it is just introduced as a concept, then I don’t think it has such a huge meaning. This is nothing new, before one would talk about 20% 80% for example. And this is what a lot of people say, “well what is really new here now exactly?” So it’s a lot of the same. When one introduces something new, one has to clarify what this means. What is new since last? Otherwise one loses a little momentum and the belief the organisation has on it. That can be a side effect. However, we are positive to the model”.

During the interview there was talk about the 70:20:10 Model and how the model is a framework for organisational learning. The informants were asked if they were able to transfer their knowledge from the course into daily work operations, as the model intends. The informant working in learning and competence had the following to say regarding transferring the knowledge from courses over to the 20% and 70% part of the model:

“ Yes, I would say that. The goals with both the courses was to apply new knowledge to the project, and that I have been able to accomplish with the course development, so definitely”.

The 70:20:10 model is very much focused around experience learning and about the importance of practice. The employees emphasised that the model is a good framework for the organisation. One of the reasons for this is because the employees are able to transfer their 10% of formal learning over to the 20% and 70% of learning in daily work operations.

4.6 Summary

In this chapter I have presented the empirical findings of learning in DNV. It is suggested that learning is not seen as separate, but as a combination of formal and informal learning. This interrelationship of formal and informal learning suggests that there are several factors that contribute to this. These factors include networking from courses, working in teams, learning from meetings and on the job learning. Findings also show that the employees are positive to the 70:20:10 Model as a framework for the organisation. Employees say they are able to transfer formal learning over to informal learning like the model is built up. However, the model will vary from employee to employee based on experience from working in the organisation over time, and to new employees who are fresh out of university. The next chapter will discuss findings in connection to theory.

Based on the empirical findings a model was constructed to illustrate how the interplay between formal and informal learning occurs in the organisation:

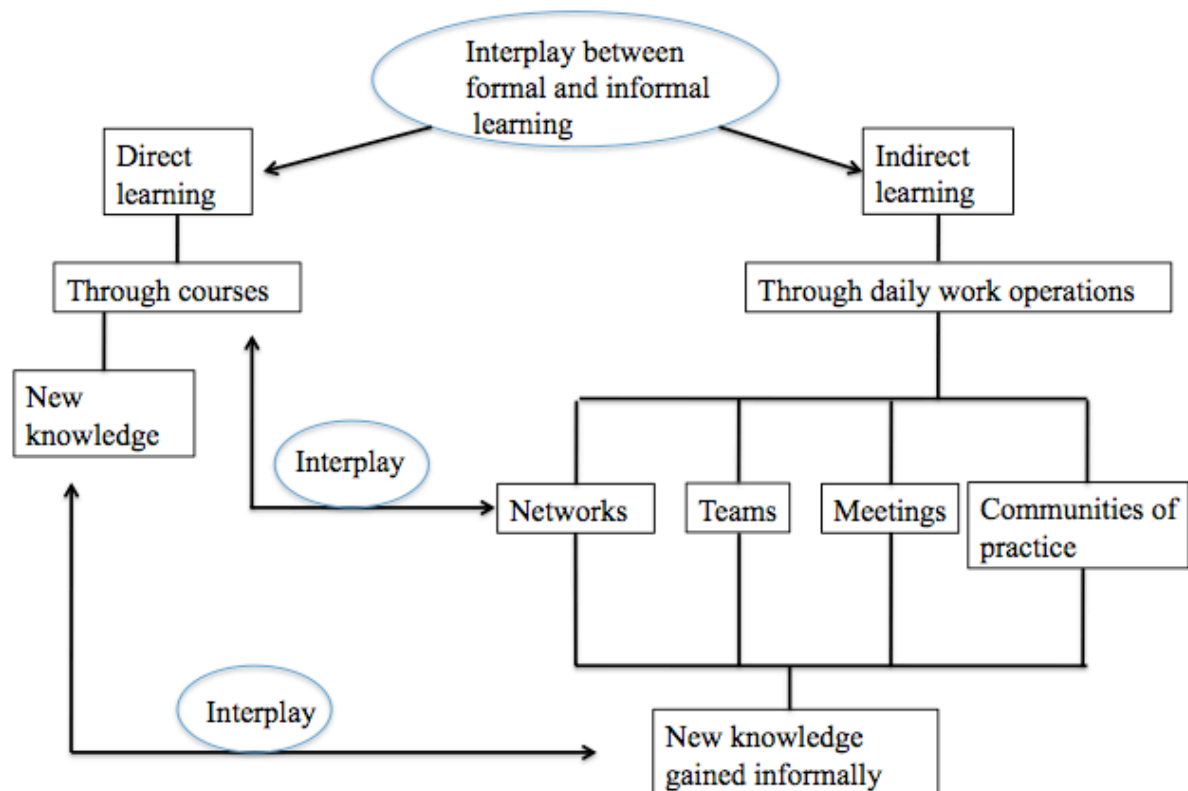


Figure 7. Figure illustrating how the interplay between formal and informal learning occurs in DNV.

It was found that in DNV learning occurs both directly and indirectly which resulted in new knowledge. Fig.7 illustrates that employees learn directly through courses. After attending courses the employees have gained new knowledge. This knowledge is also known as generating explicit knowledge and skills. Through this direct knowledge, employees create networks where they share knowledge. In the figure above, networks are seen as one of the indirect forms of learning through daily work operations. Learning through networks is just one way of learning. Employees learn indirectly through working in teams, attending meetings and working in communities of practice. All of these contribute to the employees gaining new knowledge informally. As it is shown in the figure above, formal and informal learning are not seen as separate, they are interrelated. When employees learn new knowledge at courses, they apply this knowledge in daily work operations, also known as informal learning. The new knowledge that occurs in daily work operations is also applied to formal learning. The employees cannot learn informally without having learned formally. The figure shows that the organisation needs formal learning and informal learning working together to create new knowledge not only for the employees, but also so the organisation can grow and develop.

5 Discussion and implications

In this chapter I will present the findings from the interviews and discuss them against the theory, which was presented in chapter 2. First, I will present the discussion and theory, which is connected to knowledge in daily work operations. Second, there will be a discussion on courses to the theories. Here the importance of interplay between formal and informal learning will be discussed. Third, some reflection on how employees use the knowledge in daily work operations after attending courses will be connected up to theory presented in chapter 2. Finally, the 70:20:10 Model will be discussed connected to the findings from chapter 4.

5.1 Knowledge in daily work operations

Formal learning is still recognised as the main route of qualifications that is required for entry into jobs. Informal learning, however, is mostly acquired through experience in the workplace and is the most frequently used of learning forms. As it has been shown in this research, employees are mostly interested in the results of learning rather than the form of learning. This was shown in the analysis with the employees having to be up to date on the latest knowledge. The employees are also more focused on problem solving and teamwork when it is related to the learning. Learning was perceived as taking place at work everyday in real problem-solving situations. In most organisations, problem solving provides the employees with an opportunity to learn. This includes for example current regulations and procedures, which have to be followed, and work tools.

Research conducted by Eraut (2006) shows that formal education and training provides only a small part of what is learned at work. Most of the learning, which was described through the interviews was informal, however, employees still said there was a need for formal learning at work. Informal learning would arise naturally out of the demands and even challenges in their daily work operations. By responding to such challenges, it entailed both learning and working. This shows that formal learning and informal learning cannot be separate from each other. Billett (2002) argues that workplace learning should not be seen as informal, but rather as the organisation's structuring of workplace activities. One of the

reasons for this is that workplace activity has dimensions that are associated with learning directly from the communities of practice, which also have pedagogical qualities. According to Billett (2002) it is the circumstances that determine the kind of learning that occurs, such as formal and informal learning.

According to Wenger (2004) in a social learning situation, competence is historically and socially defined. Therefore, organisations depend on social learning systems. Learning can be seen as the interplay between social competence and the individual's personal experience. There are three modes of belonging through which we participate in social learning; engagement, imagination and alignment (Wenger 2004). These three modes of learning describe the way in which employees interact and participate in the organisation. In this thesis the research findings show that engagement plays a large role in the organisation. According to Wenger (2004), engagement can be seen as employees working together, talking and helping a colleague with a problem or participating in a meeting. This can furthermore be seen in connection to Boud and Garrick (1999), who say that employees are required to put their knowledge and expertise to use in unfamiliar circumstances such as teamwork and meetings. This form of competence can be seen throughout DNV. The employees learn by participating in meetings and discussing projects with each other. Imagination is seen when employees help describe with examples how to solve a problem on a project. Alignment is seen in connection to the findings when individuals interact in daily work operations, and discuss important projects.

Learning at work can also be seen as being context bound. This means that learning in the workplace is situated. Lave and Wenger (1991) argue that in specific contexts, and through interactions with each other, employees are able to create and interpret meanings about learning and competence. This can clearly be seen in connection to the research found in this study. The employees at DNV rely greatly on working in teams and interacting with each other when they need advice to receive a better understanding of problems. By applying on-the-job learning the employees have the advantage of situated learning. Lave and Wenger (1991) argue that the social situation the employees are a part of help define the learning which takes place on the job. Therefore, learning becomes a result of the employee participation in the social setting at work. Learning becomes a natural part of the organisation, which in turn is connected to the work tasks that have to be solved. The employees say learning is a part of their everyday life, which is something that Lave and

Wenger (1991) also argue for. In the organisation, situated learning becomes a part of everyday life through exercises, and practical work with colleagues. The focus lies on what type of social interaction the employees are a part of, and which in turn is best for learning to take place.

Another important finding, which has been mentioned earlier, is that the employees are open to helping colleagues with a problem. Participating in communities of practice is essential to our learning according to Wenger (2004). Communities of practice can be seen as building blocks for social learning. One reason for this is that they are “boxes” of competence that make up the system (Wenger 2004). Letting employees participate in such communities can define what constitutes competence in a given context, for example being a structural engineer. Communities of practice are defined by competence having three elements. The first element according to Wenger (2004) is called *joint enterprise*. Here one talks about the level of learning energy. For DNV, joint enterprise can be seen in connection to how the community has focus on keeping learning at the centre of its enterprise. The second element is called *mutuality*. This is an important element for DNV because the employees must know each other in order to interact productively, in teams or meetings, and know who they can approach for advice. Another factor for receiving and giving help is that the employees have to gain enough awareness, so that their contribution will be reciprocated in some way. The third and last element is called *repertoire*. Here, one talks about the degree of self-awareness, and about the tools and the styles the employees use. If an organisation, like DNV is able to be reflective on its repertoire, it enables the community to understand and uncover hidden possibilities. It is therefore important that these three dimensions work together according to Wenger (2004).

Employees who are new to the organisation, straight out of university, often arrive with new knowledge, which they can share in the organisation. Employees who have been working in the organisation over a longer period of time usually have more experience and even older knowledge that can be useful. This type of “senior” “junior” relationship is quite beneficial for the organisation. It does not mean that the organisation should cut out formal learning. Moreover, it means that this knowledge sharing helps both the seniors and the juniors develop their competence. By allowing the seniors and the juniors to work and discuss together this relationship allows a transfer of knowledge that cannot be achieved in a formal learning setting.

Lave and Wenger (1991) argue that legitimate peripheral participation is important for the learning process. Connecting this up to fresh employees and the “older generation” can be seen with the relationship of what Lave and Wenger (1991) call ‘newcomer’ and old-timers’ within the communities of practice. Lave and Wenger (1991) have met criticism in the form that no account has been taken of how ‘old-timer’ employees who have achieved full participation may be continuing to learn. In DNV this is being taken into consideration because of what was mentioned earlier about the “senior” “junior” relationship in the analysis part 4.2.5. According to Wadel (2008) learning conditions that cross each other are a useful way of developing knowledge. By establishing colleague’s interactions, whether from different departments, or other sections in the workplace, they can help solve problems. Wadel (2008) says this connection by, Person A talking to Person B, will in the end, if successful, create new knowledge, which in turn, creates new learning. It is through the connection of the two employees’ knowledge that makes the foundation for creating the new knowledge and in turn new learning.

5.1.1 Networking and teams

Wadel (2008) sees networking as the connection between social relations. This means that networks are often organised with intent so that learning that occurs in this network is easier to connect to learning when there is a larger group. According to Illeris (2011) having these internal networks can provide the framework for relevant work-oriented learning. In DNV, there are internal and external networks where employees communicate with each other. Networks are important for the employees since they can be seen as informal learning in the organisation. It was discovered that when the employees attend courses, networking was most commonly achieved. Networking is important for the organisation in creating new knowledge and finding this knowledge in a variety of places. Wadel (2008) says networking happens when the participants adapt new knowledge which they teach to other participants in the network. Participants who learn new knowledge will often share this knowledge with others at a later date. It was discovered that employees who have problems when working on a project often use their personal network to receive help and advice. The knowledge development or learning will occur through constant interaction with each of the individuals

in the network (Wadel 2008). Each of the individuals in the network have a specific set of knowledge which they share with each other.

The main difference between networks and teams is; in teams the participants have a better view of who, what, why and how learning occurs (Wadel 2008). However, networks as a learning organisation have the ability to develop, send, convey and receive knowledge. This knowledge is often shared between colleagues and new knowledge is created.

After having attended formal courses, employees are able to reflect on the experience, which in turn can help members to integrate new learning with current knowledge. This knowledge transfer can then be used in the organisations through meetings and teamwork. Teamwork for the employees in DNV is important. Even though this is connected to informal learning, it is a vital factor for the organisation. Through these teams, employees share knowledge, create new knowledge, and share the new knowledge with other colleagues. Matthews and Candy (1999) say that the social relationships can also be seen as communities of practice.

Moreover, in a workplace setting a lot of the application of knowledge happens through teams. New knowledge is often created in a workplace setting mainly through working in teams or in groups (Matthews and Candy 1999). The employees working and interacting with each other in the organisation informally and naturally form communities of practice. Every individual will belong to a form of a community of practice, whether it is at school or at work. The role of this peer-to-peer interaction is important at DNV because it forms common values, understandings and practices. By reflecting on experience, it can contribute to help members integrate new learning with current knowledge. Moreover, training and development activities can generalise knowledge throughout the organisation. Distinguishing between organisational learning from learning activities can lead to the discovery of new knowledge that promotes organisational learning. The employees' commitment to their work is shown through participation in teams and with the appreciation of the value of the work (Eraut 2006).

Teamwork and networking in the organisation has become more widespread and involves social activities more than ever. Work as social interaction, teams and networking have become central points in workplace learning. Those who study learning at work, see teams and work communities as the primary environment in which individuals learn at work (Boud and Miller 1996; Marsick and Watkins 1992; Wenger 1998).

5.1.2 Meetings as a form of learning

According to Illeris (2011) meetings and other formalised forms of interaction in the organisation do not directly convey learning to the employees, but rather exchange information as a forum for discussions. Such meetings will only be perceived as promoting learning if the meetings are structured and if the atmosphere is informal. Illeris (2011) says that meetings that are specifically structured for the purpose of formal learning, with specific goals, will usually be called seminars and internal courses. It has been illustrated in this research paper that much of the learning that occurs in the working environment is through daily work, and being proactive in seeking learning opportunities. The findings show that employees in the organisation learn more from “on the job” learning and discussing projects.

With Lave and Wenger’s (1991) theory, the communities of practice play a role in DNV. According to Lave and Wenger (1991) communities of practice are described as dualistic systems of participation (the interaction), and reification (the focus created in a community), which firstly determines the interaction between reality and actual experience of an action. And secondly, how meanings which are produced by culture are negotiated. For the individuals this highlights the importance of finding the set of communities they should belong to (Wenger 2004). Employees in the organisation belong to a variety of communities of practice. For the organisations this implies a need to learn and to participate in a social learning system, both inside and outside the organisational boundaries (Wenger 2004). Employees learn through their daily work operations and outside the organisation by discussing work in an off the job setting.

Sharing individual knowledge with co-workers is an important prerequisite for organisational learning processes (Nonaka 1994). The employees in DNV often learn by discussion or group meetings. According to Nonaka (1994), knowledge production can be seen being interrelated to the experiential learning of a team, group or organisation. Nonaka (1994) uses the term “tacit knowledge” in organisations and the importance of turning the implicit knowledge into more explicit ways of knowing at the group and the organisational level. Nonaka (1994) divides tacit knowledge into two forms. The first called technical, and the second referred to as cognitive. Technical tacit knowledge can be seen in connection to the findings related to “learning by doing”. Here there is no requirement of using language, and employees who

already have the knowledge inside, do not have to seek other colleagues for advice or guidance. Cognitive tacit knowledge can be seen in connection with colleagues asking each other for help and advice. Cognitive tacit knowledge is transferred through language and involves a form for social interaction. Cognitive tacit knowledge can also be connected to the findings regarding discussions of work problems. This can involve both meetings, or even be seen in connection to networking from courses. Evidence therefore shows that tacit knowledge is grounded in experience and is therefore of importance for the organisation

According to the knowledge spiral model by Nonaka (1994) knowledge creation takes place on an individual, group and organisational level. The first level of knowledge creation; *socialisation* is the individuals acquiring knowledge from other colleagues through dialog and observation. This can also connect to informal learning. This can be seen in connection to the findings of the individual acquiring tacit knowledge. Though this is a limited form for knowledge creation, socialisation comes into play through on the job training. There are two ways of seeing this in the organisation. The first is regarding two people working closely together. Here, the tacit knowledge is inadvertently transferred from one colleague to the other. This is clearly present in DNV when employees work together to create a mutual knowledge through either projects or through discussions.

The second level of knowledge creation; *externalisation* which can be found in connection to meetings held in DNV. Here the employees write down and distribute information. Externalisation is referred to as the articulation of knowledge through documentation. Here the employees listen and contribute to discussions and meetings. The findings also show that the employees on a daily basis listen and contribute to each other's daily work operations.

In the third level of knowledge creation; *combination*, knowledge is seen as objective. With combination, the employees combine various forms of explicit knowledge such as documents or databases. In the findings from DNV, meetings are used as a significant form for combination. One of the reasons for this is that knowledge is transferred through participants comparing knowledge to what others know. The employees come together to exchange ideas and knowledge. By combining and sorting explicit knowledge, new knowledge can occur. Formal courses and training is one form for combination of knowledge.

The last level of knowledge creation; *internalisation* involves “learning by doing” and where the employees internalise knowledge into their own mental models. In the organisation, learning by doing is present at all times according to the employees, and is used to facilitate internalisation of new knowledge. According to Nonaka (1994) the employees internalise the explicit knowledge, and turn it into tacit knowledge. DNV works on all of the four levels of knowledge creations, defined by Nonaka. This therefore shows that DNV is good at creating knowledge for their employees and for the organisation.

5.2 Learning from courses

In this research, the employees’ views of learning covered both formal and informal learning. The informants emphasised that learning takes place in connection with daily work operations, learning through meetings and informal network, and formal structured learning. This reflects the interrelationship to integrate formal and informal learning in order to enhance organisational learning. The majority of the learning challenges that they encountered were related to the course description, and what was actually taught at the courses. It was also shown that the employees are dependent on formal learning because of the large technological development in today’s society.

It has been mentioned that formal learning such as courses are important for DNV, not only for the employees, but also for the organisation as a whole. The workplace has become a site for learning and this is associated with two different purposes. The first is the development of the enterprise as a whole, and the second has to do with the development of individuals through contributing to knowledge, skills and the ability to further their learning as employees (Ibid.). Although it has been recognised and shown in these findings that learning at work is required in order for the employees to do their jobs, formal learning has mostly been regarded as a formal study connected to the individual’s education.

Since most of the employees in DNV would like to have attended the course again, it would support the literature by Lai (2004) who states that with the acquisition of skills, we mean both the acquisition of new, complementary skills, or change in the previous skills through unlearning and relearning. The new complementary skills would be knowledge, and skills within new work tasks. The unlearning and relearning involves changes and adjustment of

skills. For the employees at DNV this is related to having the opportunity to take a refresher course.

The formal courses that are provided by DNV are a motivation for the employees. The impulse to learn is therefore largely motivated by the desire to solve a problem. For the employees to be able to solve these problems they have to attend formal courses provided by the organisation. Since DNV is a knowledge-based organisation, and has a large focus on new technology in today's society, it is important for employees to know the changes that broaden their knowledge offered by the organisation.

According to Illeris (2011) internal courses can be seen in relation to what he called internal training. In DNV this can be seen in connection to Course A and Course B. One of the reasons for this is that these courses have a direct impact on the employees' daily work.

5.2.1 Formal learning

DNV is a knowledge-based organisation and the employees represent the main capital of the organisation. Therefore it is important that the organisation has a continuous investment in learning for employees. It is in addition, important that the organisation provides alternative opportunities for formal and informal learning for employees. This includes those employees who have worked in the organisation for several years, and also for employees who are fresh out of university and who have little experience working in a large organisation. This may also include groups acquiring basic learning skills, such as communications technology. Findings showed that employees new to the organisation attend more formal courses than the older generation, who learn more informally and through "on the job" learning.

DNV needs formal courses, however, the employees who have a lot of competence in an area should share their competence on a larger scale. Instead of investing a large amount of money on hiring external course holders, they should look inside their own organisation. Not only will this reduce the costs, but moreover, it can also include quality and relevance of the courses. By focusing on internal course holders, such as employees in the organisation, it is possible to use examples in the organisation. The employees felt this has been missing from the courses. It was mentioned that the employees would like to have examples which are

directly connected to daily work operations. Using direct examples, such as regulations for containers and bulks, as well as other fields in the organisation, employees can set examples into context.

People who are new to the organisation will learn more formally than informally. This helps them understand the context of their job and to the organisation.

Formal learning works best explicit when you can describe the processes and have explicit clarity around the steps. Individuals, who are working in the knowledge industry, use tacit information since each problem has a different solution. This can be seen in connection to informal learning.

5.2.2 Informal learning

The most noticeable result was related to the emphasis placed on informal learning or on-the-job learning. This finding indicates that, although formal learning has been considered to lie in the traditional organisation, the employees place great value on informal learning and its use as a component to formal learning. The research has uncovered that there is an interrelationship between formal and informal learning in the organisation. Therefore, formal learning and informal learning cannot be seen as separate as one previously thought.

Although these organisational learning processes are presented as separate, they interact and overlap in practice.

Eraut (2006) says that, given favourable conditions, learning at the workplace can be enhanced by improving the opportunities for productive engagement. Allowing employees the chance to work alongside a colleague for a period of time allows the person to learn by asking questions and receiving feedback. Moreover, it enables him or her to pick up aspects of decision-making that is largely tacit.

Whilst some tend to view informal learning within the workplace positively, some have actually pointed out the drawbacks in relation to its process and learning outcomes (Dale and Bell 1999). Since Det Norske Veritas is a knowledge-based organisation, it is important for them to develop their knowledge. Bell (1977) uses a metaphor of bricks and mortar to

describe the connection between formal and informal learning. Formal learning is explained as bricks being fused into the emerging bridge of personal growth (Bell 1977). Informal learning serves as the mortar, facilitating the acceptance and development of formal learning that produces new growth (Ibid.). This means that informal learning and formal learning support each other. Moreover, there have been some drawbacks on using informal learning alone. One of the drawbacks is that informal learning cannot be used in formal qualifications (Dale and Bell 1999). Furthermore, informal learning in DNV becomes too narrow, so the employees only learn part of a task or skill. The problem with validating informal learning as an effective form for learning is mainly that it is unanticipated, and therefore not easily assessed (Eraut et al., 1998).

5.2.3 Why the interplay between formal and informal learning is important

As it has been mentioned earlier in this thesis, the organisation relies on both formal and informal learning in order to develop the competence of its employees. Lai (2004) says it will always be better with a combination of various learning methods to achieve optimal learning. By combining several methods, one is given a greater opportunity to satisfy the various learning principles. Moreover, the variation of the learning situation will help to increase motivation. Filstad (2010) presents a relationship between formal and informal learning. Findings in this research show that there is an interrelationship between the two, which can be supported by Filstad (2010) and Slotte, Tynjälä and Hytönen (2004). Filstad (2010) says that it is formalised knowledge and previous experience that connect formal and informal learning. Arguments by Filstad (2010) support the findings from the research with courses being integrated into learning in daily work operations. The most effective way of learning does not separate formal and informal learning. The point is to blend these two together, by applying a learning mindset to on-the-job learning so that the employees are always learning. Furthermore, this will ensure that formal learning and development uses real-life challenges for both personal and organisational development. Slotte et al. (2004) says formal learning makes it possible to exploit informal learning effectively. This can be explained by turning tacit knowledge into explicit knowledge by integrating conceptual knowledge and practical experience. This results in the creation of new knowledge.

Figure.8 below illustrates how the findings can be seen in connection to research conducted by Slotte, Tynjälä and Hytönen (2004). Slotte et al. (2004) acknowledges formal and informal learning as being equally important. However, it is emphasised that they entail different processes and various outcomes (Ibid.). The model demonstrates that there is a relationship between formal and informal learning in the organisation. Colley, Hodgkinson, and Malcolm (2003) have questioned the validity about learning having separable formal and informal dimensions. They have suggested that in situations where learning takes place, both formal and informal learning are present (Colley et al., 2003). It is not the boundaries that are significant, but the interrelationship between the dimensions of formality and informality (Ibid.). Moreover, the model and research in this study acknowledges that formal and informal learning are equally important elements of learning at work, it also emphasise that they entail different processes and different outcomes (Slotte et al., 2004). This can also be seen in connection to what Barnett (1999) says about informal learning being made effective by formal learning goals or through formal learning situations. Formal learning on the other hand can only be effective if it is backed up by informal learning (Barnett 1999). In Figure 8., an additional box has been added to represent the interplay between formal and informal learning. This box shows the connection between formal and informal learning, as supported by the findings from this research. Moreover, the box was created from the findings in the analysis. In Figure 7., a description shows how the interplay between formal and informal learning occurs. The model by Slotte, Tynjälä and Hytönen (2004) only explains that there is an interplay between formal and informal learning. It does not explain how the interplay occurs, and why the interplay between formal and informal learning is important. The model created from the findings illustrates how the interrelationship occurs, and why it is important for formal and informal learning to be present at the same time.

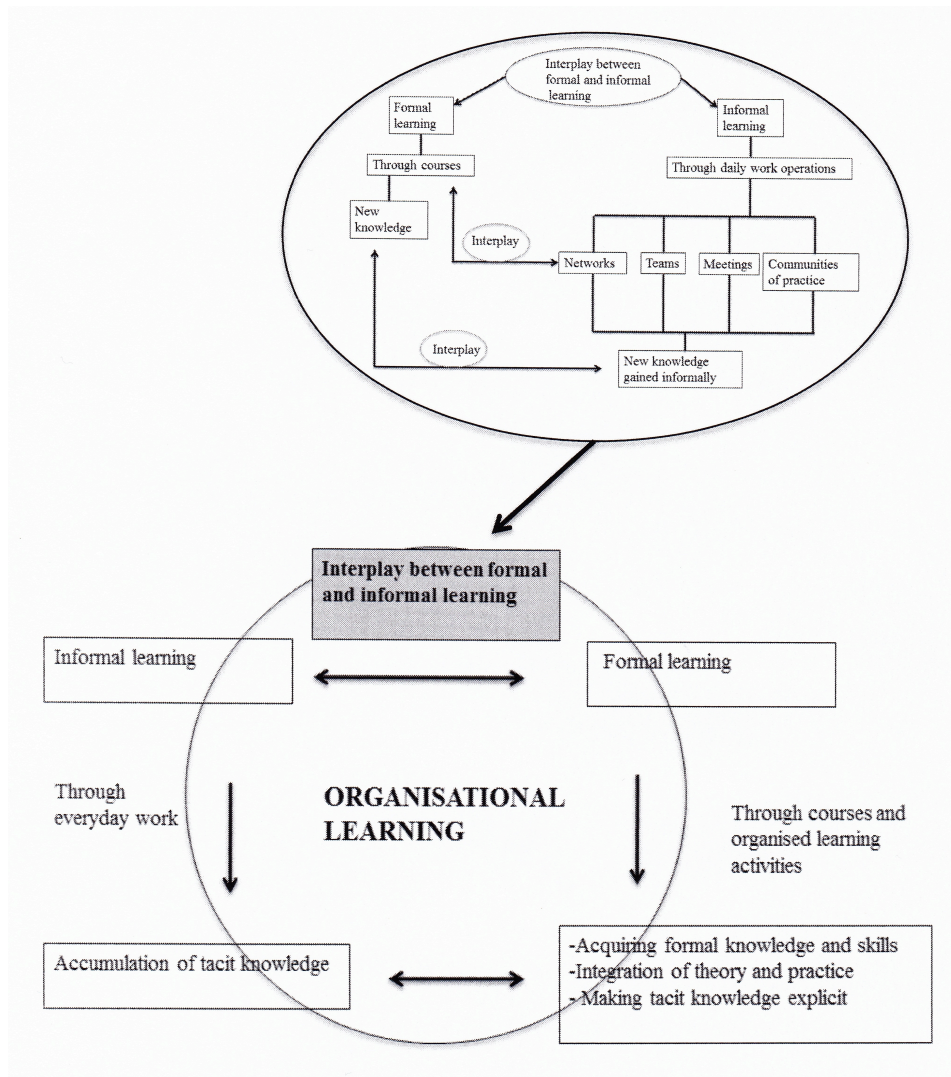


Figure 8. Learning at work through formal and informal learning. Model by Slotte, Tynjälä and Hytönen (2004) **With additional findings from the analysis in this research.**

Research conducted by Slotte, Tynjälä and Hytönen (2004) can be seen in connection to the findings in this research. In the majority of the interviews it was argued that informal learning itself in the organisation was not enough. Even though it was shown that informal learning is the leading form for learning in the organisation, outcomes of only informal may not always be desirable. Evidence showed that since informal learning takes place without conscious effort there is mainly tacit knowledge, this can result in a focus on only informal learning which may not always be desirable. Moreover, tacit knowledge is not always positively connected to organisational learning. Problems such as dysfunctional practices that do not always serve the goals of the organisation can arise. DNV being a knowledge-based organisation, has to be up to date on the new technology. In today's society, new knowledge is being produced at such a rapid rate that informal learning alone cannot ensure that new knowledge and skills, which are vital for the organisation, are being kept up to date. This is

why formal learning is important for the organisation ensuring learning, in turn the employees can use informal learning effectively. This means that the formal learning cannot be ignored or under evaluated. It is therefore important to be conscious to the ways in which formal learning can be transferred and implemented into daily work operations.

Formal learning in the organisation is expressed through the context of organised training and learning activities with a goal to generate explicit and formal knowledge. Furthermore it is sought to generate skills, which the employees incorporate in their daily work operations. Informal learning in the organisation was mostly expressed as a part of everyday work processes where the production of tacit or implicit knowledge occurs. It was expressed that informal learning and tacit knowledge arise as a result of the unplanned form for learning.

As mentioned earlier, DNV is a large international organisation. Therefore, it is important for them to be able to incorporate theory and practice into their formal learning such as courses and other formal training. Although the two courses that have been presented in this paper have similar goals, which are to provide the employees with knowledge and skills, it is important that the employees can take away knowledge from the courses. Having motivation for learning is something the organisation should take advantage of. The informants had motivation for learning by having the chance to attend a variety of courses. It was also said that being able to learn new information both formally and informally, was a motivation for learning. If the organisation offers its employees advanced courses, this can increase the employees competence, and DNV receives new knowledge.

It has been argued by a variety of researchers that organisational learning goes beyond individual learning, which shows that collaboration and interaction among colleagues is essential. Moreover, if there is only individual learning, then the organisation as a whole will not change unless learning is shared and experienced. Having the ability to learn in collaboration and interaction with others inside and outside of the organisation, will often make the difference between a successful organisation and a failing organisation. According to the employees in DNV, all informants felt they learned more by informal learning. However, it was important to persist that without formal learning the employees are not able to transfer informal learning to their colleagues.

Colley et al. (2003) argue that informality and formality can be considered attributes for learning. Reason being that learning is found in varying degrees in every learning situation. Employees in the organisation said that there is a need for the combination. In their work, they cannot learn without formal learning. Furthermore, when the employees are discussing projects they use mainly informal learning. However, as it has been mentioned, being able to learn informally requires formal learning. As Malcolm et al. (2003) points out, formal and informal learning are often characterised as two complete different paradigms where informal learning is associated with "...learning through everyday practices in non-educational settings..." and formal learning is associated with "... acquisitional and individual learning within educational institutions..." (Malcolm et al., 2003:314). It is however, possible to assume, that despite there being differences, formal and informal learning can be combined. However, some problems will inadvertently arise in the process of doing so (Malcolm et al., 2003), and that a variety of learning situations will embody attributes of both formality and informality. Dehnbostel and Molzberg (2006) claim however, that the combination of formal and informal learning will take place in a form of group learning. At DNV this is present by the employees working and learning together in groups. These forms for learning are often seen as holistic and contain potentials for learning and development in the organisation. Employees in the organisation say they learn more when interacting with colleagues in meetings, networks and in daily work operations. In DNV the combination of formal and informal learning is fruitful for the employees. The phenomenon of learning within and between organisations has helped develop a better understanding of how informal learning takes place in the organisation.

5.3 Using new knowledge in daily work operations

According to Senge (1999), the organisation cannot learn if the individuals do not learn. Therefore, Senge (1999) supports the findings from this research regarding the rapid change for organisations that are flexible, adaptive and productive. These are the organisations that will excel. It is argued in this research and by Senge (1999) that, for this to happen, the organisation has to discover how to engage employees to learn at all levels. Everyone has the capacity to learn, however, it is the organisations that are continually expanding their capacity and their future that will succeed.

The ability of the individuals to know what they want to do and to work towards this goal was found in the data. The employees found it beneficial attending courses that are not only directly linked to their department. By creating an organisation where employees develop competence by achieving goals and purpose encourages personal mastery in DNV. Mental models include both implicit and explicit understandings. These models provide the individual with the context in which one views new knowledge.

5.4 The 70:20:10 Model as a framework

With formal learning being a motivating factor for the employees, it was also uncovered that the employees are perceived as key personnel when they receive the opportunity to attend courses. Furthermore, this motivated employees to share their knowledge with other colleagues. It is important to notice that the 70:20:10 Model is only a framework for the organisation to use. It does not state that the organisation has to use 10% on formal learning, and 70% on informal learning. In the research presented in this paper, it could seem that formal learning leans more towards 15% based in findings from the interviews. One of the reasons for this, as mentioned earlier, is that the organisation has to be up to date on the latest technology and knowledge. It is therefore important that they focus more on the formal aspects of learning in the organisation.

Furthermore, in Det Norske Veritas learning and training are two different concepts. Training courses can be perceived as something the employees are paid to attend. People respond to forms of appropriate learning because they have a motivation for learning. Employees benefit from learning because they often have a motivation to learn and develop their competence. In DNV, the communication, training and competence development are both formal and informal, and focus on the diffusion of knowledge across the organisation. The communication focuses on diffusing information and knowledge, while training and development focuses on the skills as well as understanding. This way, the 70:20:10 Model works as a good framework for the organisation. It shows that the organisation is dependent on the formal learning for the employees, so that they can teach their colleagues in a more informal setting.

Since the 70:20:10 Model is only a framework, the model will vary from employee to employee. One of the main reasons is related to how long the employees have been working in the organisation. Employees who have been working in Det Norske Veritas over a period of 20-30 years might not see the formal learning 10%, as vital. A reason for this can be that they have more experience in the work area and attending a course for them is not that important. However, even though they have been working there for a long period of time, new knowledge could have been developed. Therefore, attending courses can also benefit these employees too. For some of the more experienced employees, it could be beneficial for them to attend more advanced courses, if this is something the organisation can provide. However, there has to be an update in the course material in order to accomplish this.

For employees who have only been working in the organisation for a shorter period of time, attending courses provided by DNV will benefit them immensely. One of the reasons for this is the courses provided by DNV are often connected to the areas where the employees work. Furthermore, a lot of the courses provided are so called basic courses. These courses talk about DNV as an organisation, and include introduction courses. In addition, new employees who have little experience working in organisation, are often more relaxed when attending courses. It was seen in that newly educated employees prefer formal learning. Since they are fresh out of university they are more used to a formal classroom setting.

Telenor³ are stepping away from the more traditional learning, and cutting down on formal learning. They have concluded that informal learning and “on-the-job” learning is much more effective and employees learn more through interaction with each other. Furthermore, it was discovered that the employees learn more through work tasks and being given responsibility, rather than attending courses. Even though they also follow the 70:20:10 Model, they are stepping away from formal learning. By focusing on the 70%, Telenor say that with employee networking, “on-the-job” learning is more effective.

The 70:20:10 framework is simply a reference model that helps address workplace and social learning as well as structured learning in a holistic manner. For DNV it is important to

³ “Telenor dropper kursing av ansatte” (Telenor drops courses for its employees). Article talks about how Telenor is cutting down on its courses due to the fact that the employees learn more from on the job learning. They follow the 70:20:10 Model in a different way.

include formal learning. It is important to notice that the numbers represented in the model are not fixed. The framework focuses on supporting workforce development and learning, even though learning already exists. For Telenor the numbers were not desirable for formal learning. However, in DNV the numbers support learning as it happens through challenging experience, through practice, and having the opportunity to reflect on daily work operations. This shows that the decision by Telenor is contrary to my research findings. For DNV, the model helps build robust and holistic employee development strategies.

6 Conclusion

Society is experiencing a rapid technological development and this has implications for a modern knowledge based organisation. It is therefore important that organisations are able to develop on a continuous basis to be able to keep up with these changes. Hargreaves (2003) points out that the most successful organisations are learning organisations where knowledge sharing, and learning, is at the centre.

In order to conduct my research and try to answer my main research question, I have looked at theory about organisational learning and the learning organisation, as well as competence development. Through interviews and with the use of documents provided by DNV on the 70:20:10 Model, it has been possible to make an analysis of how formal and informal learning occurs in DNV. I chose to conduct my investigation using two courses that are provided at DNV, and through my findings to assess the organisational learning that occurs, and how it occurs. The courses that were chosen were practical and theoretical courses, both of which are presented in chapter 1.5. It would have been too comprehensive for this thesis to examine all the courses provided at DNV. To be able to answer the research question I chose to use a qualitative methodology, based on a case study and used interview with 12 informants. The following research question was created as the basis for the thesis:

How does the interplay between formal and informal learning take place in the organisation?

The phenomenon of learning in the workplace is becoming more interesting to research, and has been the subject of studies from various perspectives. Particularly, there is a need to investigate the nature of learning in the workplace seen from the point of view of the employees themselves. The findings in this research indicate that both formal and informal attributes of learning are present in the work place and that these are interrelated through daily work operations. The findings also suggest that in organisations today there is a larger focus on informal learning. This makes it very important to understand how this interrelationship takes place in order to facilitate effective learning in the organisation. In the workplace, informal and formal attributes of learning were present and in conclusion, interrelated with each other.

6.1 Three main conclusions to the research question

Based upon my research I have concluded with three main findings.

1. Formal learning plays an important part of competence development in a knowledge-based organisation.

Formal learning continues to be the main route required for entry into jobs. DNV is a knowledge-based organisation with highly competent employees working in a variety of technical areas. Competence and deep technical knowledge are important elements in order for DNV to fulfil its role as both an independent third party certifier as well as an advisor in highly specialised fields. It is therefore essential that employees are up to date on the latest technology that society has to offer. If the employees are not offered formal learning, it could result in a decrease in the gaining of new knowledge. For the employees to learn new knowledge and be able to help the organisation grow, courses are a vital part of their daily work. Formal courses serve as a foundation for knowledge that can be further developed in informal settings. However, it is finding the balance between these formal courses and the informal learning that occurs in the work place that is the main challenge. It is important to be able to find a good balance between the structuring of formal and informal learning inside the organisation. By allowing and encouraging the employees to attend courses that can be beneficial for projects they are working on, can in turn create a circle of knowledge around the organisation. This circle will in turn create informal learning. The quality and the relevance of courses are important. For the employees in the organisation, courses are seen as motivation for learning. The impulse to learn is largely motivated by the desire to solve a problem. For the employees to be able to solve these problems they also need to attend formal courses provided by the organisation. Formal courses represent the essential foundation for learning.

Formal learning is also important because the employees said new knowledge could not always be acquired through daily work operations. It can also be argued from a more general point of view that another reason for investing in formal learning is because employees represent the main capital of a knowledge-based organisation. This means that if the employees do not learn, then the organisation will not be able to learn and develop more competence and new knowledge.

2. It is the combination of formal and various forms of informal learning that is important, and the interplay between these play an important role.

The organisation relies on both formal and informal learning in order to develop competence for the employees. By combining formal and informal learning there is a greater possibility to develop and exploit the various learning methods. The employees benefit from turning tacit knowledge into explicit knowledge by integrating conceptual knowledge and practical experience. It was found that in the organisation the interplay between formal and informal learning is important. Furthermore, the most effective ways of learning does not distinguish between formal and informal learning. Informal learning is seen as the leading form for learning in the organisation. However, since new knowledge is being produced at such a rapid rate, informal learning alone does not ensure that new knowledge is acquired and competence is being kept up to date. Formal learning is therefore important to ensure that the employees can use informal learning effectively. DNV is a large international organisation and it is important for them to be able to incorporate theory and practice into their formal learning, such as courses and other formal training. The study has clearly shown that for an organisation and its employees to develop new knowledge, there is a need for both formal and informal ways of learning. Employees also felt that being given the opportunity to attend a variety of courses could enhance their knowledge in daily work operations.

Employees in the organisation were found to learn more when working in teams and attending meetings. It can be argued from a more general point of view that meetings are a combination of formal and informal learning. This means that the employees learn more when interacting with colleagues in daily work operations. Even though informal learning is the main route to learning, employees mentioned that without the formal learning, the employees are not able to transfer informal learning to their colleagues. Understanding this interplay is important in developing a learning organisation.

3. The interplay between formal and informal learning takes several forms and recognising this and allowing the development of different learning places, helps develop a learning organisation.

Networking, working in teams and discussions through meetings are three of the main sources for informal learning in the organisation. With networking, employees have a social interaction with each other and have a form for on-the-job learning experience. Another form for informal learning which was seen in DNV was when the individual is working alone with a project, and develops knowledge through solutions to problems. Examples of this can be various Internet sources, reading documents, and discussions with colleagues. Through social interaction between colleagues, learning is developed. In meetings, new informal learning is created through dialogue, holding presentations for each other, and discussion of specific topics from projects.

One of the more significant findings to emerge from this study is supported by Slotte, Tynjälä and Hytönen (2004) saying there is a need for the combination of formal and informal learning in the organisation. This was analysed in chapter 4 and discussed in chapter 5. Filstad (2007) also says there is a relationship between formal and informal learning but is not specific on how this takes place. It was shown that even though the employees learn more from informal learning, they could not learn effectively without formal learning. A learning model was created showing how the interplay between formal and informal learning takes place in the organisation (See Fig. 7). The model is based on the empirical findings from the research, and illustrates the interplay between the two forms for learning. Moreover, the model shows that through attending courses (formal learning), and learning from working in teams, attending meetings, and being part of communities of practice (informal learning), the interplay occurs. Through attending courses, the employees create networks with people. With DNV being such a large organisation, and having expertise in different departments around the world, networks are important to employees. Learning through meetings can be seen as both formal and informal learning. A reason for this is because in some meetings, employees are encouraged to hold presentations. It is through presentations, through the interaction in meetings and through teamwork in the organisation, that employees gain new knowledge. Employees are able to share knowledge, create new knowledge, and interact in communities of practice. Communities of practice are also created through working in teams and groups in the organisation. Employees cannot learn effectively without both formal learning and informal learning, as the two are interrelated.

It has been the focus of this thesis to try and see how formal and informal learning are connected in a learning organisation. Argyris and Schön (1996) and Senge (1990) mention formal and informal learning seen as being separate. When they are seen in connection to each other, they complement each other (Filstad 2010). All organisations can be seen as learning organisations, however, it is the way learning is conducted and accomplished that determines a learning organisation. Through conversations with the employees, it was possible to see that there are organisations that do not see a connection between formal and informal learning. It is therefore my contribution to this field that I would like to help put a focus on the combination of formal and informal learning, which I believe has a clear connection and influence in a learning organisation.

6.2 Implications for theory and practice

The major finding in this research shows that there is an interplay between formal and informal learning in the organisation. This is supported by the research by Slotte, Tynjälä and Hytönen (2004). They acknowledge formal and informal learning being equally important. Furthermore, Slotte et al, (2004) argue that when employees have formal learning, it is possible to exploit informal learning. This is also supported by Filstad (2010), who says that formal and informal learning are integrated. However, neither Slotte et al, (2004), or Filstad (2010), mention how this interplay happens. They only mention that there is an interrelationship, and that it is important. The findings in my research illustrate exactly how this interplay occurs between formal and informal learning (See Fig. 7). The findings also explain why it is important that formal and informal learning are not seen as separate.

Based on the above conclusions, some important implications for practice can be drawn. Formal learning through courses is an important foundation for competence development in an organisation like DNV. It was said that without formal learning, the employees are not able to learn informally in the organisation. Therefore, courses offered have to be both relevant to and up to date on the latest development. For employees who would like to attend the courses again, and more advanced courses, it is important that the course material has been updated. It would also be beneficial for the course holders to keep in touch with the course participants. Receiving feedback from the participants can help the course holders improve the courses if needed.

A second point is that preparing and training learners with Course A and Course B should be done internally in the organisation. The employees mentioned in the interviews that they would benefit from attending courses that included examples from the organisation, which they could directly relate to. This would help the employees put the knowledge into daily work operations.

Thirdly, it was mentioned that the employees learn mostly through informal learning in the organisation. The employees said that meetings are a good setting where they can learn from each other by holding presentations. In addition, when the employees attended courses they were able to create networks with employees from other sections and departments. These networks helped the employees learn informally when they needed advice on a project. Both of these forms of learning should be encouraged as they were shown in the study to be stimulating in the interplay between formal and informal learning. This can be seen in connection to Figure 7., presented earlier in the paper.

The organisation should also focus more on developing communities of practice for its employees. In addition, the organisation should consider using new methods such as the Internet and digital communication much more as tools for learning. These can be used to provide the employees with opportunities for e-learning (informal learning) and fast access to large arrays of information resources and communication channels. However, if e-learning is to be successful, it requires a large amount of learning commitment, trainer support and feedback. Such learning methods can help to build bridges between the offices around the world and the employees can share and develop new knowledge through this “digital library”.

As a final recommendation on how to build a learning organisation in DNV, it is possible to draw upon the five disciplines of Senge on how to create a learning organisation. It is important to see that the five disciplines by Senge (1994) on how to create a learning organisation do not provide direct guidance on how to build a learning organisation (Senge 1994). For DNV to be able to implement the five disciplines effectively, the organisation has to continue committing resources to learning, support a learning infrastructure globally and institutionalise learning. If this is in place, DNV has to implement a broader evaluation program covering both formal and informal aspects of learning. This evaluation program can help ensuring the learning within the organisation is effective. Finally, it is important that

DNV encourages its employees to pursue development and personal growth in the form of learning and personal knowledge development.

6.3 Limitations of the study

This section will present some of the research limitations my choice of method and theory has brought. At the same time I will also argue for the methods I have chosen. In qualitative research the researcher is the instrument, and limitations can be due to the researcher, as well as external factors. These factors can affect the results of the study, and how the results are interpreted. Stating the limitations of the study can be useful as it provides a method in order to acknowledge errors or difficulties that may be possible and even useful for the readers.

This is a qualitative study, it is therefore not possible to replicate the research and the findings. A reason for this is because the natural setting is always changing. Being able to replicate the findings is only possible if the data illustrates these changes. Since this is a case study, we cannot be sure whether the conclusions drawn from this case can be applied elsewhere. Moreover, because the method chosen is based on the analysis of qualitative data, the results depend on the interpretation the interviewer places on the informant. Another limitation that is found within qualitative studies is related to validity and reliability. Since I have chosen a phenomenological approach, I am aware that there are some limitations of the study that I do not have any control over. An example of this is the researchers' own subjective feelings, which may influence the case study. If I had chosen quantitative research method, I would have lost the ability to be able to ask follow up questions to the informants. However, if I had chosen a quantitative approach, I could have used the same survey in other organisations, to test my findings. For this study I chose not to use a quantitative approach, as I was not seeking to generalise the findings, but rather gain a deeper understanding of the employees' views on learning. The research was conducted by looking at two courses. Each of the employees were interviewed once. Being interviewed once and conducting a semi-structured interview however, is not enough to gain in depth information. The validity could have been better if there had been a follow-up interview with the informants. Secondly, the population of the employees of the group is twelve. This might not represent the majority of the employees in the organisation.

Although the research has reached its aims, there were some unavoidable limitations. Firstly, because of the time limit, this research was conducted on only a small group of employees in the organisation who had attended the two courses. Another alternative would have been to interview employees who work with competence development in DNV, such as those who work directly with the 70:20:10 Model. This could contribute to a better understanding of why the organisation uses the learning model. This would have given me more varied information and views on organisational learning in DNV, and could give the study a more varied perspective. Secondly, the employees' overload of work, to some extent, might affect the result of the research. The employees might feel that have to finish the interview quickly because of a heavy workload.

Using a case study approach has the limitations that are not immediately transferable to other organisations. For this to be possible, the researcher would have to verify the findings from this study with another, and see if there is transferability. However, it is possible to see that the chosen informants have provided good data on the basis that they have answered questions in depth, and given me a good understanding of how the organisation learns. I have obtained comprehensive answers by using a semi structured interview guide. This enabled the informants the chance to speak freely and did not have to stay within a structured topic. Limitations of using a semi-structured interview are that it is not always easy to see connections with the answers received. One of the reasons for this is that the informants have the chance to speak freely on the topic asked. With this approach there was a chance that the informants will focus on a variety of things, are not always directly connected to the question asked. In addition, it can be difficult to steer the interview, since the informants to a certain degree will steer their own answers. At times I experienced that the informant slid away from what I had asked, and I therefore had to steer them back onto the topic I was asking questions about. In all the interviews conducted, there were sets of questions ready for the informant to answer, which would make my comparison easier.

6.4 Suggestions for future research

When writing an empirical thesis on a subject like formal and informal learning in a knowledge-based organisation, one has the possibility to use a range of different methodological approaches. The chosen methodological approach for this thesis has provided

a better understanding of the interrelationship between formal and informal learning, and a better understanding of how they are dependent on each other. However, further research on the matter should be undertaken. An example of this may include larger studies where there is a possibility go more in depth, and make comparisons to other learning organisations.

Throughout this thesis I have presented factors which are of importance in a learning organisation, and how these are interrelated with each other. Furthermore, in this study the combination of formal and informal learning has provided me with an understanding of how learning occurs in the organisation. Through this research process, some questions have been raised, that have not been possible to answer due to the lack of resources. Some of these questions are in need of further investigation. With the rapid development of modern technology driving many developments in modern knowledge based organisations and, because I myself have not been able to see this effect through the research conducted, it is recommended that further research be undertaken in the following areas;

- What effect can e-learning have as a new method of formal learning in the organisation?
- How to better establish communities of practice in a global organisation like DNV where one uses the Internet, social media and other means to facilitate for communities of practice across geographical boundaries. These “online communities of practice” can be seen as potential platforms for activities to support learning globally.

I have experienced through the interviews that informal learning plays a vast role in the organisation in connection with daily work operations. It is therefore of interest to research this subject more as it seems there is limited research within this field. By researching this in more depth it would give a better insight into learning in a modern knowledge-based organisation. Research questions could be related to how successful organisations manage their competence development, and is there a relationship between good innovation capabilities and good organisational learning? And how do they work with the employees to develop a learning organisation?

It could also be interesting to see if there is a connection between knowledge development and the structured learning organisation, and the commercial development and success of the company. Future research may also explore the “newer” areas of learning. Today’s society

has become more dependent on the development of the Internet as a source of information and learning. The Internet access that is available in today's society will open up the possibility to expand the organisational learning arena. It might be that the next generation of employees will not acquire knowledge through formal courses as a main form, but rather by seeking out the expertise where it exists, through the Internet and various forms of social media. Technology in today's society offers new modern ways of producing and sharing information. However, this will not necessarily guarantee the development of good communication and social skills that is required internally and externally in daily work operations.

Continuous learning is an important factor for organisations in the international market as well as for the individuals operating in a learning society. Finding effective ways for knowledge transfer between "seniors" and "juniors" in the organisation is therefore important in competence development and organisational learning. How best to do this could be a relevant topic for further research. The research ideas suggested above represent some of the areas of possible further work that I have identified through my research. As informal learning is taking an increasingly larger role in competence development, further research into the interplay between formal and informal learning is becoming more relevant as basis for building robust and holistic employee development strategies.

7 Literature

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Appendix

Appendix 1: Interview guide

Interview guide for employees in DNV

This is an interview intended for employees that have attended a course 3 months ago, one year ago and three years ago. The purpose of the interview is to see how they acquire learning and knowledge, and furthermore, how they use this in the workplace.

I will be conducting a case study on how formal learning and informal learning is connected at work. My thesis question is as follows: How does the interplay between formal and informal learning take place in the organisation?

I will be using this data in accordance with scientific guidelines. No information will reveal who has been interviewed in this thesis. Each participant will be known as “Inf.1, Course A” “Inf. 3, Course B”.

Warm up questions:

1. What type of educational and work related background do you have?
2. How long have you been working at DNV?
3. What is your role at DNV?
4. Can you please describe with five words what you feel the organisation DNV stands for?
5. Did you know about DNV before you started to work here?
 - a. If YES, from what sources, family and other media did you gain knowledge about DNV?
 - b. If NO, what factors played in deciding to apply for a position at a company you had no or little knowledge about?

Courses:

1. Why did you choose to attend this course at DNV?
 - a. If it was MANDATORY
 - b. If it were not mandatory, would you still have attended?
 - c. If you were free to attend this course, was there a special reason for attending?
2. When you attend different courses, what is important for you to get out of the course?

3. What do you feel the difficulty level had been on the last course you participated at? On a scale from 1-10, where 1 is quite easy and 10 is quite difficult?
4. Can you please tell me about the last course you attended? What was the end result for you?
5. What motivated you personally to attend the course provided by DNV?
6. Was this a more theoretical or a practical course?
7. Do you have any constructive feedback regarding the course?
8. If you think back to the course, what expectations did you have for the course?
 - a. After the course was finished, have these expectations changed?
 - b. Did this help you apply the knowledge you learned from the course to your work?
9. If you think back to the course, do you feel you have had the opportunity to use the knowledge and skills learned from the course?
 - a. Can you please give an example in which you applied this skill set?
10. Do you feel that you have learned more at work now after the course?
 - a. If YES, what are some of the reasons for this?
 - b. If NO, do you feel that learning from your colleagues gives you the chance to learn more at work?
11. What lies in the word course for you?
12. In what way have you benefitted from the courses provided by DNV?
 - a. If participant answers NO, what do you think the reason might be that you have not benefitted from attending the course?
13. In what way have you used the knowledge you gained at courses at work?
14. Has your leader motivated you to use the knowledge you learned at the course? Please give an example.
15. How are you working with the knowledge that you have acquired from taking the course?
16. Would you recommend the course Train the Trainer to other employees on your team or people that you work with?

70-20-10 Model:

1. Have you ever heard of the 70-20-10 Model DNV works with?
2. Could you please describe the 70-20-10 Model for me?
3. Why do you think the organisation has chosen this model?
4. Have you ever had your doubts about the 70-20-10 Model?
 - a. If YES, why have you been in doubt?

- b. If NO, why is this?
- 5. Can you please describe an incident where you have specifically used what you learned at a course and transferred it to either a project or a work related issue?

Daily work activities:

- 1. What inspires you to work here? Can you please give an example?
- 2. Can you please describe the work culture here at DNV?
- 3. Can you describe an incident where you learned from your colleagues?
- 4. What lies in the word motivation for you?
- 5. What is your motivation to develop your professional career skills?
 - a. Can you describe this with an example please?
- 6. Can you describe when working with projects how you resolve problems and challenges?
- 7. Can you please describe an incident where you were able to resolve a problem?
- 8. Do you and your colleagues work well as a team on projects?
 - a. Can you please describe an incident where you worked together to solve a problem, or finish a product?
- 9. Looking back at an earlier project you have now finished, do you feel you learned more from your colleagues, or did you learn more from courses and classroom settings?
 - a. What do you think the reason might be for this?

Competence and learning:

- 10. What do you think of when you hear the words competence development and knowledge?
- 11. How does this take place at your work place?
- 12. Are there some ways you feel that you learn better than others? Why do you think this is?
- 13. How do you think people best learn, on their own, or in teams with others?
- 14. Do you learn better on your own or working with others?
- 15. How do you look at learning in your daily work activities?
- 16. Why was it important for you to participate in TTT/ SOLAS?
- 17. Have you been able to deliver training in learning to your colleagues?
- 18. How were you trained to know methods of evaluating training?
- 19. What assumptions do you think have to be visible for learning to take place in the workplace?

Improvements:

1. If you think back to when you took the course, do you see any reasons for not using what you learned at the course?
2. What kind of improvements are needed for you to use what you learn at courses?
3. Do you feel that at the end of the day you use more of informal learning than formal learning here at work?
4. Do you have anything that you would like to add?

7.1 Appendix 2: Letter for research study

Research Study:

My name is Katrine Anne Svensen and I am a Master student of educational science at the Department of Educational Research at the University of Oslo. I am currently in my third semester and I am writing my Master's thesis. My research question is as follows "How does the interplay between formal and informal learning take place in the organisation?"

My paper is structured around competence development and the connection between formal and informal learning that is situated in the workplace. I would like to look closer at a course called "Train the Trainer", and investigate how the formal learning is connected to the informal learning that takes place on the job. In addition, I would like to look closer at how the employee's work with the knowledge they learn at the course. As part of this research I would like to conduct a qualitative survey by using interviews. My target is to interview employees who participated in "Train the Trainer" and "SOLAS" 1-3 months ago, 1 year ago, and 3 years ago.

The questions during the interview will cover areas such as your previous work experience, and your role at DNV. In addition, I will be asking some questions regarding the outcome from the course, including what you have learned from this course, and how this has benefitted you in further work. I will also be asking about your general perspective on course and how you have adapted the knowledge from the course to your workplace.

I will be sending you the questions in advance, so that you have the opportunity to prepare a little. During the interviews I will be using a tape recorder and the interview will take no more than one hour, and together we will arrange a time. For those working at Høvik I will conduct the interviews there, and for those participating from abroad I will be using video conference. I will forward you the questions a few days in advance. This is a voluntary interview, and you may of course withdraw or refuse to answer any question at any time. If you decide to withdraw, all collected data will be deleted. Information will be treated in the strictest confidence, and in accordance with guidelines of Data Protection Official for Research (NSD). All information will be anonymous and all recordings will be destroyed when the thesis is finished in June 1st 2013.

This study has been registered with Data Protection Official for Research. In that connection In that connection I will also ask you to please sign a consent form when we meet to comply with regulations. This will be conducted in accordance with NSD.

This research study has been discussed and agreed with [REDACTED], [REDACTED] and [REDACTED] in the learning and competence department at DNV. The purpose is also to give DNV a better understanding of the outcome purpose in DNV in allowing me to conduct this study is to learn more about the effectiveness of formal training in connection with learning. By conducting such a study I hope to be able point out or identify how effective the learning is over time and how beneficial formal learning is compared with more common ways of “on the job” learning.

I hope you will agree to participate in this study. And, I ask you kindly to contact me on telephone or email to a suitable time for the interview.

Best Regards,

Katrine Anne Svensen

Mob: XXXXXXXXX

Mail: XXXXXXXXXXXXXXXXXXXX

INFORMED CONSENT FOR MASTERS PROJECT

I have hereby received information about the study on competence development and learning, and would like to participate in the interview. I understand that all information I provide will be treated as confidential and will be anonymous.


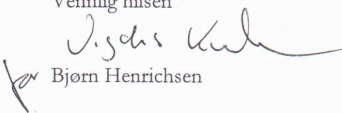
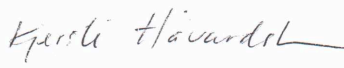
Name of participant_____

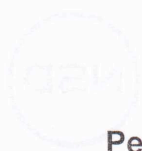
Signature:_____

Date: _____

7.2 Appendix 3

Receipt from Norwegian Social Science Data Services:

Norsk samfunnsvitenskapelig datatjeneste AS NORWEGIAN SOCIAL SCIENCE DATA SERVICES		
<p>Siw Fosstenløyken Pedagogisk forskningsinstitutt Universitetet i Oslo Postboks 1092 Blindern 0317 OSLO</p>		<p>Harald Hårfagres gate 29 N-5007 Bergen Norway Tel: +47-55 58 21 17 Fax: +47-55 58 96 50 nsd@nsd.uib.no www.nsd.uib.no Org.nr. 985 321 884</p>
Vår dato: 20.09.2012	Vår ref: 31367 / 3 / KH	Deres dato: Deres ref:
TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER		
<p>Vi viser til melding om behandling av personopplysninger, mottatt 06.09.2012. All nødvendig informasjon om prosjektet forelå i sin helhet 19.09.2012. Meldingen gjelder prosjektet:</p>		
31367	<i>The knowledge based learning organisation</i>	
Behandlingsansvarlig	Universitetet i Oslo, ved institusjonens øverste leder	
Daglig ansvarlig	Siw Fosstenløyken	
Student	Katrine Anne Svensen	
<p>Personvernombudet har vurdert prosjektet og finner at behandlingen av personopplysninger er meldepliktig i henhold til personopplysningsloven § 31. Behandlingen tilfredsstiller kravene i personopplysningsloven.</p>		
<p>Personvernombudets vurdering forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i melde skjemaet, korrespondanse med ombudet, eventuelle kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.</p>		
<p>Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/forsk_stud/skjema.html. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.</p>		
<p>Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, http://pvo.nsd.no/prosjekt.</p>		
<p>Personvernombudet vil ved prosjektets avslutning, 01.06.2013, rette en henvendelse angående status for behandlingen av personopplysninger.</p>		
<p>Vennlig hilsen</p>		
		
Bjørn Henriksen	Kjersti Håvardstun	
<p>Kjersti Håvardstun tlf: 55 58 29 53 Vedlegg: Prosjektvurdering Kopi: Katrine Anne Svensen, Sørkedalsveien 11F, 0369 OSLO</p>		
<p><small>Avdelingskontorer / District Offices OSLO: NSD, Universitetet i Oslo, Postboks 1055 Blindern, 0316 Oslo. Tel: +47-22 85 52 11. nsd@uio.no TRONDHEIM: NSD, Norges teknisk-naturvitenskapelige universitet, 7491 Trondheim. Tel: +47-73 59 19 07. kyrrsvarva@svt.ntnu.no TROMSØ: NSD, SVF, Universitetet i Tromsø, 9037 Tromsø. Tel: +47-77 64 43 36. nsdmaa@svt.uit.no</small></p>		



Prosjektvurdering - Kommentar

Prosjektnr: 31367

Personvernombudet legger til grunn at studenten har tillatelse fra DNV.

Det skal gis skriftlig og muntlig informasjon til utvalget om studien. Det forutsettes at følgende informasjon gis til utvalget:

- Hvilken institusjon som er behandlingsansvarlig (UiO)
- Student og veileders kontaktopplysninger
- Prosjektets formål og hva opplysningene skal brukes til
- At det er frivillig å delta og at man kan trekke seg så lenge studien pågår uten at man må oppgi grunn
- Når prosjektet skal avsluttes (måned og år) og at datamaterialet anonymiseres innen prosjektslutt og opptak slettes.

Datamaterialet innsamles gjennom intervju. Studenten opplyste per telefon at ingen opplysninger vil bli registrert ved observasjon.

Det innhentes indirekte personidentifiserbare opplysninger som navn på bedrift, stilling, hvor lenge man har vært ansatt m.fl.

Prosjektslutt er 01.06.13. Datamaterialet anonymiseres ved at verken direkte eller indirekte personidentifiserbare opplysninger fremgår. Lydopptak slettes, indirekte personidentifiserbare opplysninger fjernes, omskrives eller grovkategoriseres.